

CIO

WebBusiness

Section Two • March 1, 1998



FYI

FROM:

Attached is a copy of **CIO Web Business**. The articles take a cross-functional look at leveraging the Web to add enterprise value. Thought you might be interested...

TO:

TO:

TO:

TO:

TO:

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writes a new chapter on bookselling Page 36

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Where VCs are placing their bets
...and who should

Version A

998	ADV = 41.07 %
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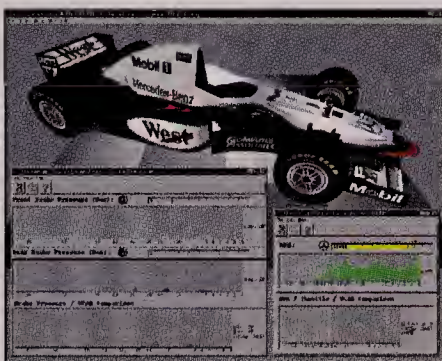
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CROSS-FUNCTIONAL PARTNERING Increasingly, successful Web development requires redrafting—or even erasing—traditional functional boundaries. *By Lauren Gibbons Paul*

on the cover

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enhance sales
in all channels.”



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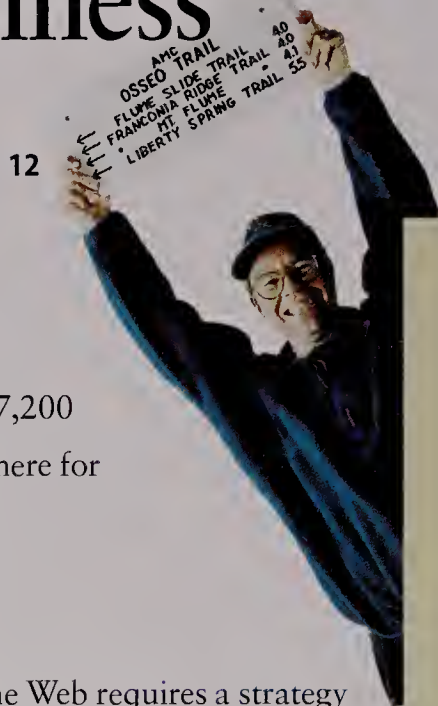
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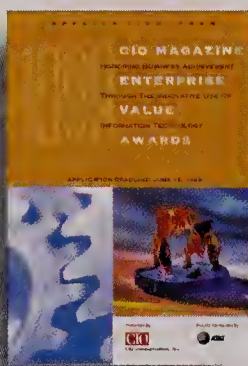
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SALARY SURVEY The 1997 CIO Executive Compensation survey reveals some predictable results—and some surprises.

THINK TANK Are we using “appropriate technology” where we need it, or is the productivity paradox fueled by Pentium envy?

EMERGING TECHNOLOGY Complete interoperability is still an issue for message-oriented middleware, but the application development process may be getting easier.

SHOP TALK IS/business relations at Kendall-Jackson.



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Straws in the Wind

IN DECEMBER I WROTE ABOUT THE DIFFICULTY OF PREDICTING THE future. One thing I forgot to say was that, besides being hard to do, venturing reasonably well-informed guesses is one of the most important things a businessperson must do. You never have complete information about anything, so the courage to make leaps of faith is required. But some people clearly possess the ability to see a square inch of a complex tapestry and infer yards. (Good reporters and editors do this when they cobble up a story idea out of a scrap of intriguing conversation or an abstruse press release.)

That notion of inferences lies behind one of this month's features. In "Money Talks," Page 46, Staff Writer Alex Frankel (who, sadly for us, recently left to pursue a freelance writing career) offers up a square inch of insight about the flow of venture capital into a variety of Web-based technologies. Our theory in doing such a story is that readers can learn about the shape of future technology offerings by looking at some of the bets venture funders are making today. The probability is high that these are the bets technology vendors will be asking you to make in 12 to 18 months—or sooner.

Consequently, this article is just the first of what we expect will be samplings of the current drift of venture money. In them we will look at the kinds of technology problems that venture capitalists think most urgently need to be solved.

While Alex's piece looks at Internet-related investments (clearly a hotbed of VC activity), other articles, appearing in different sections of *CIO*, will consider the broad range of emerging information technology investment opportunities.

Venture funding is an interesting business. A surprising statistic in this month's feature speaks either to the preternatural caution of VCs or to the scarcity of good ideas. According to J. Neil Weintraut, the founder of 21st Century Internet Venture Partners, out of 6,000 funding proposals his firm has reviewed so far, only 4 have been funded. These better-than-lottery ratios for would-be investment opportunities are still pretty long odds. I suppose that when a technology vendor comes into your shop and brags about getting some dough out of 21st Century, you can actually be impressed.

Weintraut says his firm looks for sources of acute pain in enterprise business processes for which a proposed "arcane technology" offers some promise of dramatic relief. Senior Editor Art Jahnke organized Alex's story along the lines of Weintraut's "pain metric" and identified five organizational irritants and the solutions that the five VCs who spoke to us are backing. We hope you find this kind of coverage useful. Maybe you can let us know what pain your business is experiencing, and we can attempt to seek out the embryonic technology-based cure. Tell us where it hurts: mccreary@cio.com.

Lew McCreary
 Editorial Director

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No Monopolies Need Apply

IT'S ALL ABOUT FREEDOM OF CHOICE. I WAS PLEASED TO HEAR THAT Microsoft Corp. will comply with Judge Thomas Penfield Jackson's ruling to stop forcing computer manufacturers to install Internet Explorer as a condition of licensing Windows 95.

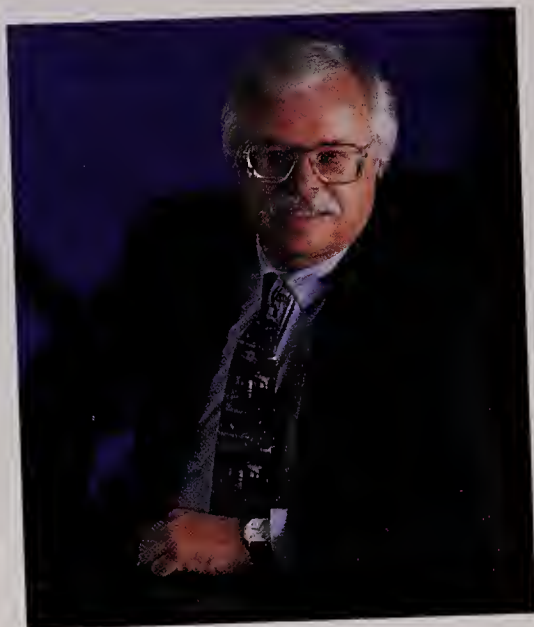
Until recently, Microsoft's position was that the merger of the operating system and the browser had evolved to the point that Internet Explorer could not be removed from Windows 95 without disabling it. I am extremely happy that Microsoft has found a way to comply while still providing the customer with the most advanced, fully functional version of Windows available.

The executives at Microsoft were smart to finally realize that their first attempt at compliance—by offering either an outdated version of Windows 95 or one that did not work—was not in the best interests of their customers or Microsoft itself.

Computer manufacturers will have two new Windows 95 options from which to choose: One has the Internet Explorer icon hidden but fully installed. The user can then install the icon on the desktop. The second option permits manufacturers to purchase Windows 95 with over 90 percent

of the Internet Explorer files included. The user would have to obtain the missing files in order to install Internet Explorer.

This solution will increase the choices available to us all. It will also demonstrate that the government is serious in its desire to foster competition and not allow a company with a monopoly in one segment of the industry to dominate all segments. In my opinion, let the marketplace decide. What's your opinion? You can e-mail me at jlevy@cio.com.



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Sir Isaac Newton took known facts, formed a theory to explain them, deduced consequences, compared results with other data, and created a means for explanation and prediction.

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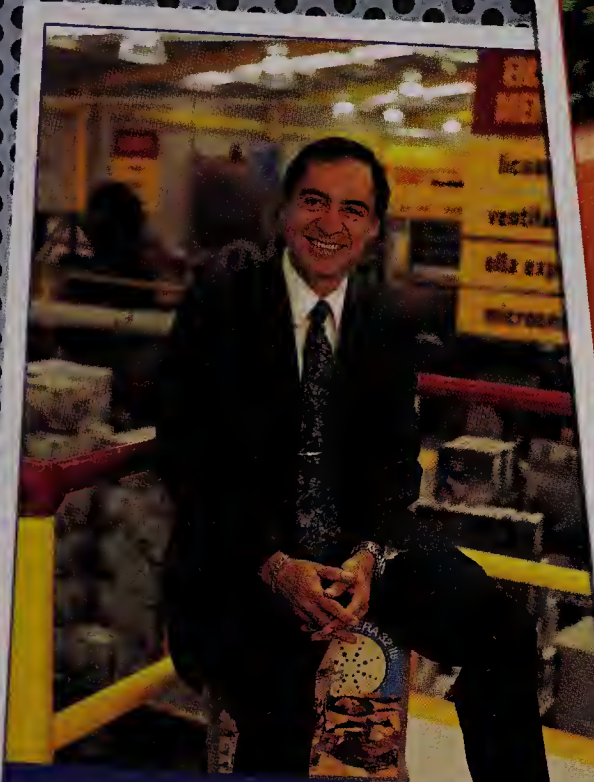
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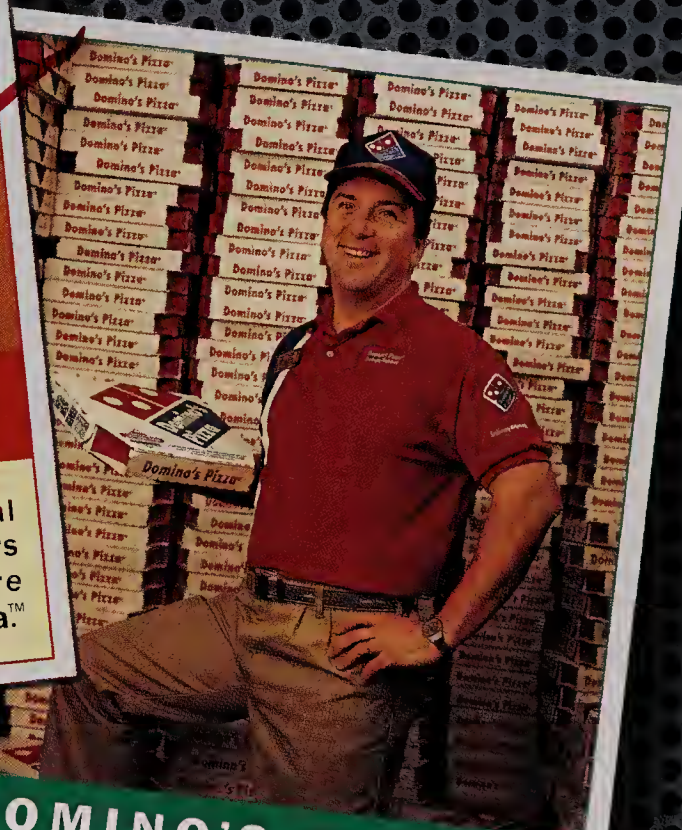
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THREADS

Heavenly Host

YOU NEVER KNOW WHO YOU'RE going to bump into in cyberspace. One unexpected arrival is former White House Chief of Staff Alexander Haig Jr., who brings with him his son, Alex, and one of the most radical ideas this side of the Reagan administration.

Haig's company, Sky Station International Inc., hopes to move large amounts of data cheaply, more cheaply at least than data now moves through fiber-optic cables or via cellular towers.

Sky Station plans to do exactly what you'd expect a company named Sky Station to do: use enormous data blimps to store and transmit data for telephone, Internet and other uses. Ultimately, Haig and company claim, they will station 250 blimps, each one 515 feet long and 203 feet in diameter, 70,000 feet above metropolitan areas around the globe. Information posted on the Sky Station Web site (www.skystation.com) reveals that Sky Station has formed partnerships with telecom companies in 15 countries and hopes to have the first blimp in place in the year 2000. True believers in Al Haig and company are even invited to click on an icon to learn how to invest in Sky Station Inc.

—Art Jahnke



Who's There

NetRatings Inc. (www.netratings.com) recently telephoned 2,000 Internet households and asked a few questions. Their findings, available in the survey, "Worldwide Web Usage in the United States," include the following:

- 28 percent of Internet users purchase products online.
- 21 percent of American households representing 43 million users have in-home access to the Web.
- 24 percent of households with Internet access have been on the Web for six months or less.
- 20 percent of the households with Web access run home-based businesses.
- 51 percent of households with Internet access have incomes greater than \$50,000.

Eyes for You



Many people worry about their privacy being invaded online, and, according to a recent poll of 1,000 computer users by New York research firm Louis Harris & Associates Inc., those who worry *most* use the Internet *least*.

Percentage of Internet Users:

- 53** believe that information gleaned from their Web use will be shared without their consent
- 5** feel that their privacy has been invaded online
- 22** express strong concern about e-mail confidentiality
- 47** favor government regulation of the Internet

Percentage of Internet non-users:

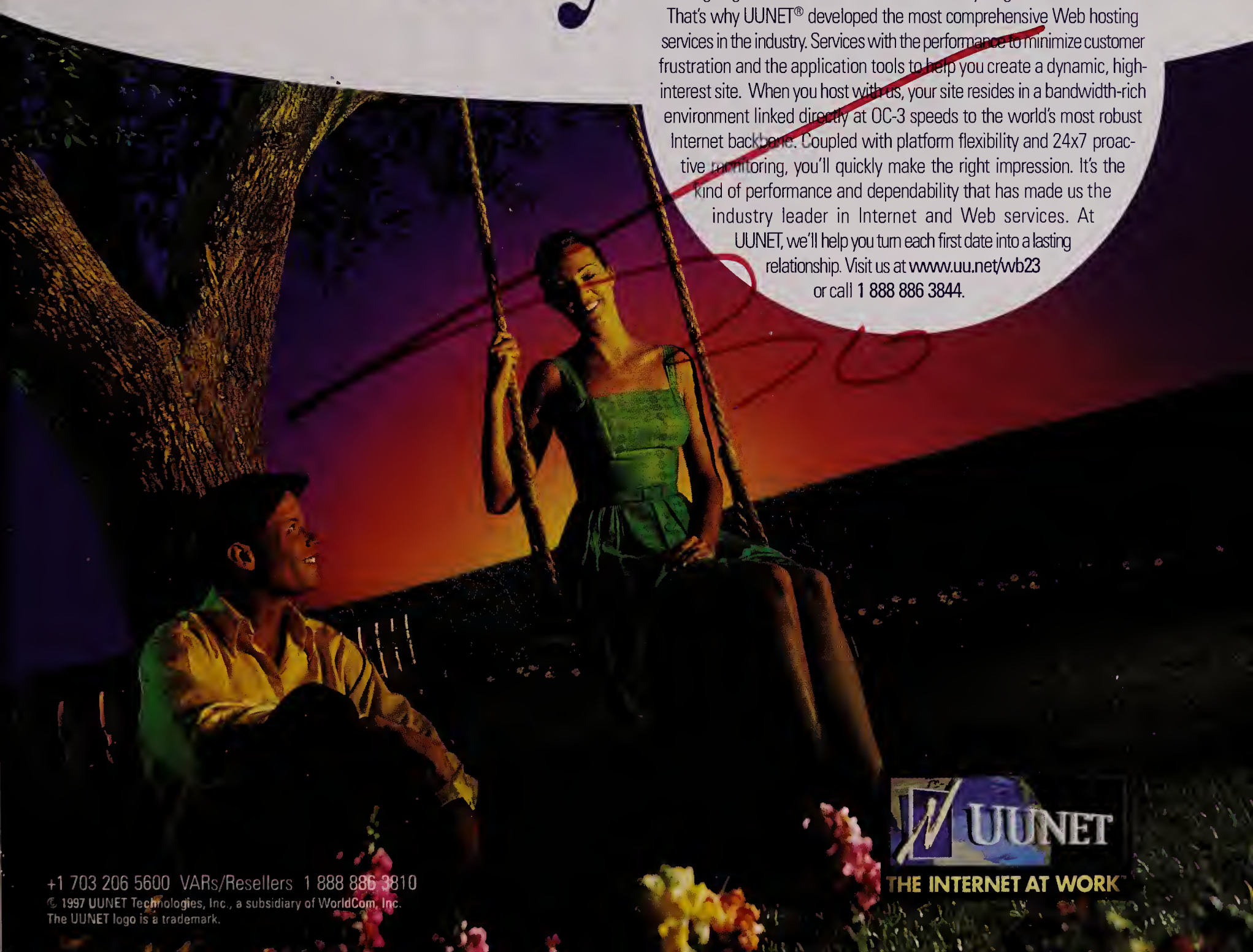
- 65** favor government regulation of the Internet
- 47** not using Internet e-mail said they would worry greatly about unauthorized access to their messages

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Off the CyberShelf

The Death of Distance: How the Communications Revolution Will Change Our Lives

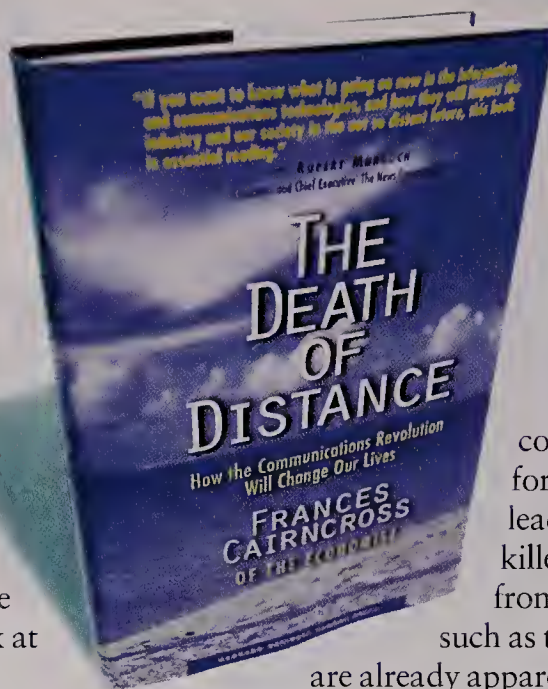
Frances Cairncross

Harvard Business School Press, 1997, \$24.95

ALTHOUGH THE TITLE OF THIS WORK BY Frances Cairncross suggests a whodunit, the book is more of a who's-going-to-do-it look at the sweeping commercial, political and cultural changes wrought by the communications revolution.

Cairncross, a senior editor at *The Economist* and author of *Costing the Earth: The Challenge for Governments, the Opportunities for Business*, launches her work with 30 developments to watch. The first relatively mundane prediction is that the three time zones of the Americas, Europe and East Asia/Australia will determine the organization of work by shifts. The final, and sublime development, Cairncross says, is world peace based on international commerce and communication.

Readers needn't be put off by the scope of this book: Cairncross lays the groundwork for all assertions, no matter how heady, with close examination of history, current trends and the seeds for new customs. Charts and notes amplify her tenets. And while the conclusion of *The Death of Distance* is optimistic, the author doesn't skirt the dark side of the new



communications era. She mentions, for example, that in 1996 Dudayev, the leader of the Chechen separatists, was killed by a missile aimed at the signal from a satellite phone. Other negatives, such as those that affect the way we work, are already apparent: Companies can use contract

workers and offer fewer benefits. While liberating, work at home can also be seen as intrusive.

Cairncross looks closely at the telephone, television and networked computer—where they've been and how they can evolve and integrate. Her clearly written historical perspective is instructive and occasionally surprising. Who would have thought, for example, that when

Rand Co. scientist Paul Baran took the ideas that led to the Internet to AT&T, the big telco had no interest in pursuing such things?

The author advises naysayers that the Internet matters not simply because of its span, its ability to merge telephone and television beyond the current limitations, but also because it is a stimulus to innovation. She describes potential social advances, some already in early stages: health-care monitoring, greater and more widespread education, development of third world countries and the growth of telecottages, which will serve employees of many different companies near where they live for both work and social functions. According to Cairncross, cities may soon provide culture, entertainment and places of residence with more safety thanks to technology, but they will forgo their role as places of work. In the end, readers will find Cairncross's future a pleasing combination of the best of the old humanizing ways with the sci-fi toys of our dreams.

—Sheila Neylon

Going, Going, Gone

Last summer, Adbot President and Founder Jim Frith couldn't say enough about the success of his Chicago-based company, whose revolutionary new business model was based on the auctioning of ad space on Web sites to advertisers. In December, Frith was talking at Internet World, where he attempted to explain the inefficiencies of Internet ad pricing. Now, however, Frith is exercising his right to remain silent.

That may be because not talking is so much easier than explaining one glaring inefficiency of his own company, where \$3.4 million appears to have vanished. The SEC considers the disappearance so criminally inefficient that it has charged Frith with fraud and with misusing \$3.4 million in funds invested by the Chicago Partnership Board (CPB), a limited partnership that invested in the ad auctioneer.

J.W. Holland, an attorney and designated receiver for both Adbot and CPB, has told reporters that the CPB money appears to have been used to cover Adbot costs as well as the personal expenses of Frith. As for Adbot, the auctioneering company that once employed 40 people has closed its doors, understanding that the next gavel to fall will belong to a judge.

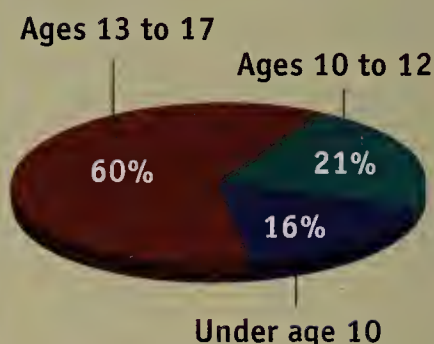
—Art Jahnke



Growing Up Wired

A recent U.S. survey of 758 parents by FIND/SVP and Grunwald Associates found that 9.8 million children under the age of 18 (14 percent) use the Internet.

Age breakdown of kids who go online:



3% of respondents did not provide age information

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Internet Travel Network. www.itn.net

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One for the Road

COUNTRY WESTERN SONGS about truckers and CB radios may have to be rewritten to change lyrics about lonely nights online if a Web site put together by Omni Communications Ltd., a manufacturer of software for the trucking industry, takes off. The Truckers Forum (www.800-459-omni.com), created as a promotion tool for Omni Communications, is a place where truckers can exchange information about new regulations, swap tales about smokey and just chat about life on the road.

"Truckers are discovering the Internet as we speak," says Allen Limberg, president of the software company based in Sheboygan, Wis. "The Internet is a great way for truckers to come into the 21st century."

According to a 1996 survey done by NATSO *Trucker News*, a free newspaper distributed at truck stops to truckers, 700,000 truckers, or about two-thirds of the 1.1 million independent truck owners in the United States, own computers, and many more are buying laptops to carry on the road. Limberg is hoping that his truckers forum will become the information superhighway's first truck stop, and he's off to a good start. Truckers who visit the site typically share information about taxes, shippers and receivers, repairs, oil, truck washes—you name it, he says.

"It's an open forum," says Limberg. "Whatever they want to do with it, it is up to them. We just don't want any profanity."

—Alex Frankel



Where Do People Want to Go Today?

In a survey conducted throughout the month of December, Relevant-Knowledge Inc., an Atlanta-based Internet research firm, found that many Web users really do want to go to the Microsoft Web site.

The Redmond, Wash., software maker was the third most popular site surveyed (10.5 million visitors), trailing only Netscape Communications (13.6 million visitors) and Yahoo (16.8 million visitors).

WAITING FOR DA DOUGH

“We all thought we’d be rich by now. That isn’t quite happening yet.”

—Ramona Ambozic, VP of Marketing at Wire Networks Inc., publisher of *Women’s Wire* and *Healthy Ideas*, speaking at a pre-Internet World Conference in December

The Campaign Circuit

In a precedent-setting case of political action in Massachusetts, the Campaign for Fair Electric Rates is using the Web to give power to the people, in more ways than one. At the campaign’s Web site (www.stopthebailout.com), visitors can use Adobe Acrobat to download a copy of a petition for a ballot referendum intended to keep down the cost of electric power. Once the petition is downloaded, however, campaigners gather signatures the old-fashioned way—on foot.

"Many people who read or hear about the campaign get their interest piqued," says Jim Braude, a veteran of ballot issues who is serving as a consultant to the campaign. "If they learn about it on the Internet, we provided them with a way to take immediate action."

—Megan Santosus





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36%

Finding the Value of Sign

BEARS NIBBLE THEM, MOUNTAIN WINDS ABRAD E THEM AND HIKERS lean on them while they check trail maps. And so every few years, the signs marking trails maintained by the Appalachian Mountain Club (AMC) are tossed in the woodpile and replaced with new ones. Until this year, when Tom Lix, of Newmarket.net, the AMC's Web developer, suggested an option. Newmarket had just conducted an online auction for another client, Tom and Ray Maggliozi of Car Talk fame, and Lix was surprised by the number of users who bid on a painting done by the brothers' mother. So he suggested to AMC Internet Director Gordon Hardy that the AMC think about what it might offer at auction. Hardy didn't have to think very long.

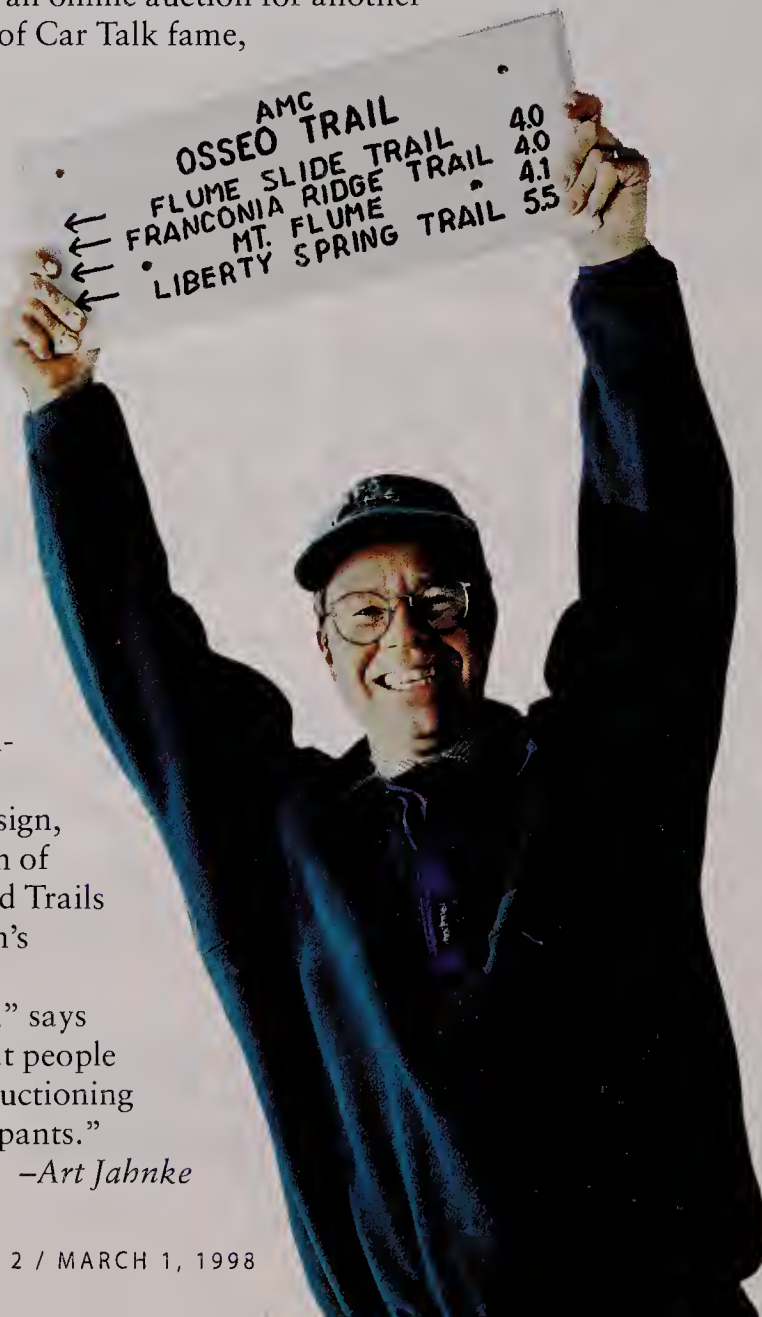
"The trail signs have a cachet among members," says Hardy. "You can't get them anyplace else."

In October, the AMC posted pictures of seven trail signs and suggested that interested site visitors bid on them.

Six weeks later, when the bidding stopped, the AMC was \$2,255 richer. The most prized sign, one that marked the intersection of the Alpine Garden and Lionhead Trails near the headwall of Tuckerman's Ravine, attracted a bid of \$650.

"It was amazingly successful," says Hardy. "It was so successful that people around here are talking about auctioning off everything, even their underpants."

—Art Jahnke



Java for Java's Sake

For two years now, oenophiles have been able to buy their favorite beverage online, thanks to the efforts of Virtual Vineyards (www.virtualvineyard.com) and a few Virtual Vineyard wannabes. Now coffee achievers can indulge themselves at Praiswater Coffee Roasters (www.praiswater.com), an all-about-coffee Web site that recently introduced secure electronic commerce transactions. Using—coincidentally—Java-based shopping cart software from NowTools!

(www.nowtools.com), coffee drinkers can log on and buy Mocha Java, Kona Blend and many other kinds of coffee. Available by the pound and half-pound, the coffees can be ground to order to suit most any drinker's liking.

To help those who don't know beans about coffee, the site includes a learning section with interesting tales of coffee processing and the truth about how coffee gets decaffeinated.

Praiswater Coffee Roasters was started by Mike and Beverly Praiswater, a couple of ex-Angelenos who left the bustle of Southern California for the tropical heat of Hawaii in 1980s. The couple began farming Kona coffee on the volcanic slopes of the island and experimented with various roasting methodologies. Once established in the coffee business, they opened a coffee roasting store in Houston. An online version of the store went up in spring 1996, and the Praiswaters hope sales will now take off with the addition of secure transaction software. The Praiswaters have most recently launched a site for their wholesale operation (www.wholesalecoffee.com), although customers are not yet able to order online. For the time being, an old-fashioned 800 number will have to do.

—Megan Santosus



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BY ART JAHNKE

COMPARED WITH MERLE HINRICHS'S FIRST GAMBLE on a business in uncharted territory, turning to the Web was a no-brainer. In 1970, the then-28-year-old Nebraskan was living in Hong Kong and selling advertising for a trade magazine about Asian business when the publisher died of a heart attack. The magazine changed hands, and rather than join the new owners in Tokyo, Hinrichs bet that Asian industry would grow fast enough to sustain at least two such magazines: the one he was about to leave and the one he was about to start.

Hinrichs had some evidence to support his hunch. Because the wages in Asia were a fraction of those paid in Western countries, goods produced in Asian factories were inexpensive. And while many businesspeople in Europe and the United States were aware of the cost advantages of buying in Asia, few had the confidence or the connections to hurdle the political and cultural fences. Hinrichs knew how to help them.

Today, anyone who reads the business section of a daily newspaper could guess that Hinrichs's bet on the manufacturing potential of Asian countries has paid off. Between 1970 and 1994, the value of merchandise exported from Japan, Hong Kong, Taiwan,

Korea and Singapore increased by more than 3,500 percent, and the number of advertising pages sold by Hinrichs's company increased by a factor of 100.

www.asiansources.com

Asian Sources Media (ASM), the Hong Kong-based company over which Hinrichs presides as chairman, has grown from the original publication, *Asian Sources*, to 11 monthly titles, including *Asian Sources Electronics*, *Asian Sources Timepieces* and, of course, *Asian Sources Computer Products*.

To Hinrichs, an entrepreneur with the vision to recognize the potential of Asia's emerging manufacturing power, the potential of the Web was about as subtle as a freight train. In fact, Hinrichs was

heading in the direction the Web has taken us long before Internet was a household word. In the late 1980s he started looking into software that would automate the processes of buying and selling, and in 1991 ASM invested in software tools that automate trade documentation and price quotes and produce accounting reports for both buyers and sellers. Two years later, in 1993, Hinrichs directed his personal assistant, Howard Finger, to study how ASM could put interactive technology to work.

Finger, now the company's vice president of electronic business development based in ASM's Manila, Philippines, office, came up with two answers. The first was CD-ROMs that catalog the factory listings from ASM print products. The second was Asian Sources Online (www.asiansources.com), a buyer/seller matchmaking Web site that now hosts more than 7,200 supplier sites, offers 37,000 products and receives inquiries from 10,000 potential buyers each week.

Getting there hasn't been easy or inexpensive. It took several months for Finger and his staff to move more than 2,000 product profiles into a database for the Web site, which went live in October 1995. And persuading many remote factories in Asia's hinterlands to get with the Web was not uncomplicated. Finger knew that if he waited for every factory owner to buy a computer and download Netscape, he would be retired before the site reached its full potential. So ASM provided the hardware, software and training to many factories that otherwise would not have joined the network. ASM also provides an e-mail address to about half the companies that use e-mail (the other half have their own addresses), although even today about 30 percent of the firms on the site choose not to use e-mail at all.

VISITORS TO THE ASM SITE CAME slowly at first, says Finger, but by late 1996 they were so plentiful that Finger started shopping for a new server to handle the load. In March last year ASM brought in three power-

ful servers made by Sun Microsystems. The upgrade made it possible to expand the number of product profiles to 23,500. More recently, the company purchased a Sun Enterprise 5000, which uses an Oracle database and operates out of Singapore. Sarah Benecke, CEO of ASM, says hardware and software costs alone have been more than \$6 million, an amount that is close to that earned from Web site ad revenues in 1997. The giant step forward, says Benecke, will take place by mid-1998, when Asian Sources Online will become completely transactional and money will change hands online.

Meanwhile, the site continues to grow into a marketplace that is arguably bigger and easier to use than any real-world marketplace ever could be. Looking for sports shoes? Asian Sources Online has 23 suppliers offering 206 products. There are 10 suppliers of slippers, 9 suppliers of sandals and clogs and 7 suppliers of boots. Users can view the products or just read about them, and, of course, they can contact sellers. There are spoons (17 suppliers of 47 products), flowers (17 suppliers of 111 products) and 11 kinds of guns,

"All manufacturers have stock that they can't move from time to time," says Benecke. "Many importers are interested in picking that up at a good price. With this type of product, time is of the es-

Persuading many remote factories in Asia's hinterlands to get with the Web was not uncomplicated.

none of them deadly. There are grease guns, heat guns, labeling guns, paint spray guns, stun guns, staple guns, glue guns, caulking guns and 27 different kinds of toy guns.

The Web site includes a bookstore offering books about purchasing in Asia, as well as a trade show calendar and a product alert function that lets users list products that interest them and then receive e-mail when that type of product is available.

There is also a separate section of the Web site for factories trying to unload excess stocks. Here, bargain-minded shoppers can pick up 200 million ceramic disc capacitors (price negotiable), for example, or 11,000 chocolate fondue sets (\$2.30 each).

sence, so the Web is an ideal way to match buyers and sellers."

This spring, says Benecke, Asian Sources Online will launch its next new service, one that will let large importers of Asian merchandise build their own catalogs of goods that they want to buy.

Unlike many online marketplaces, Asian Sources Online earns revenue only from paid listings and advertising, not from taking a percentage of sales.

"We have never considered that," says Benecke. "I believe that is one of the reasons for our success. Our job is as a matchmaker. We put all of our efforts into creating a site where this happens quickly, efficiently and at the lowest cost. It would really confuse things if we tried to take a share of the sale."

Because inquiries are sent directly from buyer-users to the suppliers and/or advertisers, Finger says, ASM doesn't know the value of business transactions that start from matches made on the site. The company does, however, have anecdotal reports of sales such as an order for 6,000 sunglasses that was arranged in only three e-mails. And there is the Taiwan bag manufacturer that, in the first month online, got a \$19,000 order. And a manufacturer in Suzhou, China, that received an OEM order for 4 million units a year.

It also has e-mail from satisfied customers, such as a Lebanese purchasing director who wrote: "I saw your banner at Kai Tak Airport. I memorized <http://www.asiansources.com>. I have already bought over US\$100,000 from Asia for communication companies and over US\$50,000 from Asia for computer companies. Thank God you exist."

"For the international community, going electronic is no longer an option," says Benecke. "The benefits of shorter lead times, more efficient marketing and sourcing and the reduced costs are just too persuasive. Companies must adapt or they will fail." **CIO**

Senior Editor Art Jahnke can be reached at ajahnke@cio.com.



The Six Million Dollar Site: Asian Sources CEO Sarah Benecke says 1997 ad revenues are about \$6 million, roughly the cost of the hardware and software needed to build the site.

THE MAIN ATTRACTION

Stale Equals Fail

Success on the Web requires a strategy for keeping your site fresh

BY SCOTT KIRSNER

This column was last updated on 08/02/96. Have you stopped in your tracks yet? Set off to seek more timely reading material? If this column actually had been written way back in 1996, you'd be pretty disappointed. A magazine's value proposition is to present a picture of the world as it is today, not 18 months ago. Attention is valuable; your time is money.

Why, then, do so many new-media executives allow their Web sites to get long in the tooth? Site operators should think like produce managers in a gourmet supermarket—when the romaine turns brown, it's outta there.

It doesn't take customers more than a few visits to determine whether your Web site is a relevant resource: Has it been updated? Is there anything new here?

"A fresh site says all kinds of positive things," says Andy Howarth, president of Snickelways Interactive, a New York-based development firm that focuses on commerce sites, such as Rand McNally's online store. "The message is 'we care about you, we're up-to-date, we know what's going on.' But if you don't keep your site fresh, the message is 'we're boring, we don't know what we're doing, and we don't care. So get over it.'"

Freshness doesn't just happen. In fact, it's unlikely to happen without a concerted strategy. Most organizations spend so much time, money and energy creating their Web sites that they heave a sigh of relief once the site launches and turn their attention to Phase Two of the Web-development work. The result is a site that molds and begins to wilt.

Few people know that better than Donna Iucolano, the director of interactive services at 1-800-Flowers. The 10-year-old company sold \$30 million worth of foliage online last year, and it wouldn't have happened without Iucolano's 20-person staff updating the inventory every weekday. They change specials, promote new products and push holiday arrangements.

"As frustrating or challenging as the development stage is, that's really the easy part," says Iucolano. "Maintaining the site is the hard part. If you don't do that, you'll lose your customers."

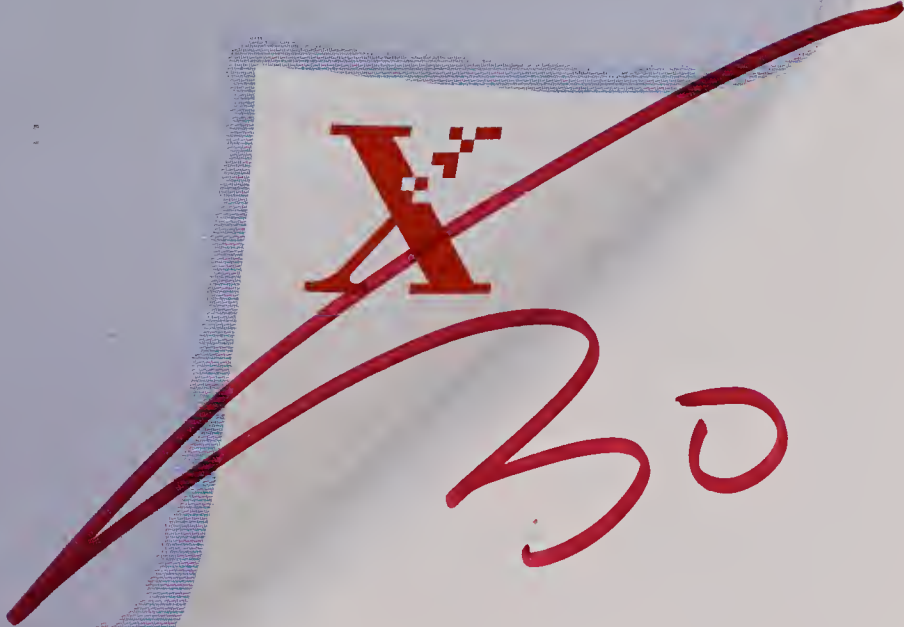
The first question to ask in devising a freshness strategy (see "Five Ways to Get Fresh," Page 26) is, How often do you need to update your site? That depends on the product or service you sell and your customers' expectations. "Your strategy will depend on what your business is," says Jonathan Nelson, CEO of San Francisco-based Web agency Organic Online (www.organic.com). "Nike has to have a dynamic, evolving site. They're about the latest high-tech shoes and clothing, and their customers expect them to always have something new. But a paper clip manufacturer? A brochure site with prices that get updated as necessary might



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be all you need."

Nelson warns against updating merely for the sake of updating. "You don't have to be *The New York Times*," he says. "I have made recommendations to some clients that they shouldn't update daily or weekly. Not everyone is a publisher."

It's important to balance the costs against the benefits of updating a site, and that requires an assessment of what resources are involved. Will you retain the same agency that designed your Web site to handle updates? That route is often the most expensive, but it may make sense for an organization without enough staff to handle ongoing Web duties. The other option is to dedicate employees to site maintenance.

With either option, experts say, companies should budget 20 to 30 percent of a site's original development cost for annual maintenance. And it's important, even if the updates are done by an agency, to have someone on staff be responsible for the timeliness of information on the site.

THE COST OF KEEPING A SITE FRESH is likely to decline over 1998 as more tools come to market that assist in the process. "You'll soon start seeing more off-the-shelf products that are designed to help you manage content and keep your site fresh," says Kevin Mason, the director of technology at Eagle River Interactive, a Web developer in Chicago. "But it's a real gap right now—there are plenty of tools focused on creating sites but few that help maintain them."

To make up for the lack of shrink-wrapped products, agencies like Eagle River, Snickelways and Organic have built their own tools. The goal is to help clients use simple, browser-based forms to do things like post new press releases, change corporate bios and update pricing and product info. "The trend is going toward empowering clients to manage their own updates," says David Centner, CEO of New York's K2 Design Inc. "It's a little more expensive on the front end, but it makes maintenance easier and less expensive in the long run."

Making it easy to keep a site fresh without requiring expertise in HTML or Unix can also reduce a company's dependence on a centralized Web function or department, allowing anyone to make

Five Ways to Get Fresh

- 1 Weigh the costs and benefits of daily, weekly, monthly or quarterly infusions of new content.**
- 2 Decide who is responsible for updates.**
- 3 Determine what updating must be done manually and what can be automated.**
- 4 Find out if there's software that can make updating easy for the nonprogrammers in your organization.**
- 5 Create a schedule for maintaining the site and stick to it.**

updates from their desktop PC.

It works that way at Resort Sports Network (RSN) (www.rsn.com), a Portland, Maine, company that provides Web and television reports about events and conditions at 56 North American ski areas. "Every morning, our cam operators at the ski areas take digital pictures and use their Web browsers to upload them—along with a text description of the day's conditions and occasionally an audio or video clip," says Elizabeth Harvey, RSN's content editor. "We don't do anything." The distributed updating arrangement lets Harvey's staff of 10 work on new projects—for example, enabling visitors to book their ski vacations online.

Other sites, such as CNN Interactive and the PointCast Network, automate their updates even further. The bulk of the CNN site is generated by scripts that grab the latest weather, sports scores and market updates and shape them into pages. Executive Producer Jeff Garrard estimates that somewhere between 80 and 100 stories a day on CNN Interactive are produced by humans, while thousands are constructed by scripts. "That lets us spend our human effort handcrafting the big stories of the day—adding audio, video, graphics and producing a real mul-

timedia experience," Garrard says.

PointCast's update system might be the most automated anywhere. Throughout the day, programs go to partner sites like The Wall Street Journal, Reuters News Service and Wired, grab the latest content and pour it into PointCast's database.

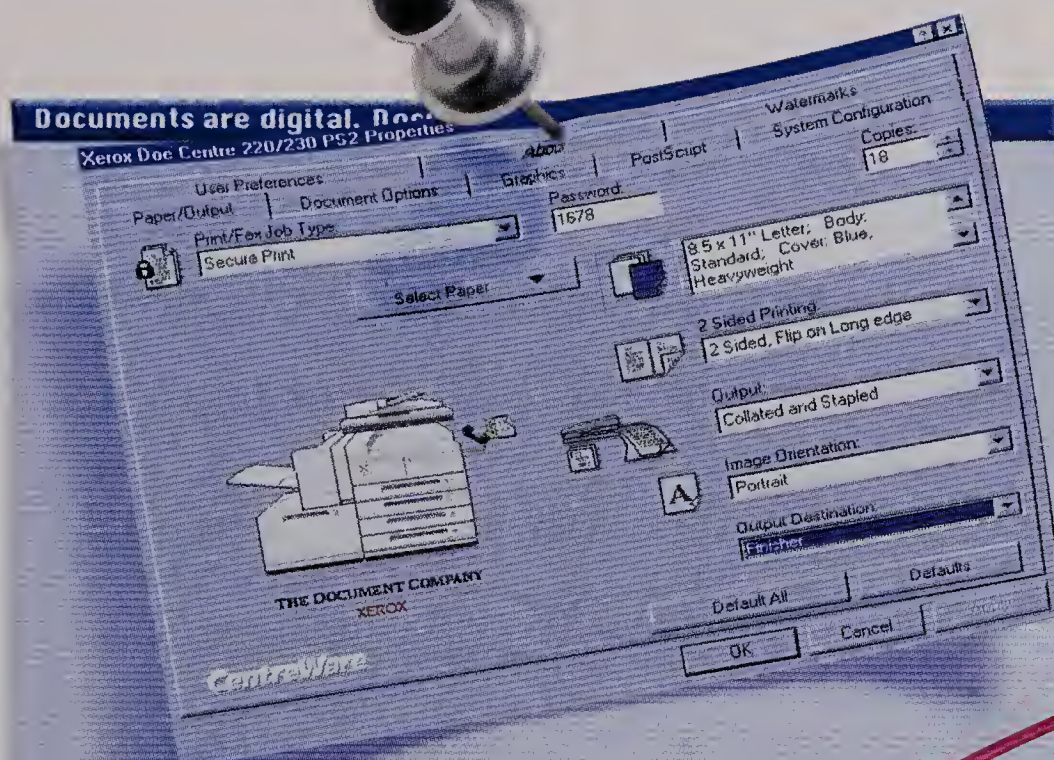
And some people—for instance, Iucolano at 1-800-Flowers—have even devised ways of automating not just today's updates but future ones. "We create pages that then get held until a certain date, which lets us do updates in advance," she says. "We try to stay ahead because in our business we have holiday crunches, and you don't want to be doing a lot of new things then."

To make sure updates don't fall behind, sites often set up calendars that remind them which areas need to be updated when. Point people are given ownership of certain pages or zones of the site to prevent those areas from being neglected.

Once a process is in place, it's important to tell the user that your site is being updated regularly, along with which parts are changing. Some sites choose to insert on certain pages a line that reads, "This page last updated on...." Others list changes on the home page or set up a special "What's New" page to highlight additions and revisions. Commerce sites can indicate freshness by automatically creating a list of the day's best-selling items, as Snickelways did for Music Spot, an online music retailer. "Show them what's flying, what they should check out," says Howarth.

Having a freshness strategy isn't an issue of fashion. It's not about making sure that your home page requires all the latest plug-ins. At stake is the organization's public image. As the Web continues to go mainstream, it will increasingly be the first—or only—way that customers interact with your company. "Making your site relevant and keeping it up-to-date are the two key things," says Rick Faulk, vice president of marketing at IntraNetics, a Woburn, Mass.-based software company that builds shrink-wrapped intranets. "You can spend as much money as you want, but if you don't do those two things, you're dead in the water." **CIO**

Scott Kirsner writes about technology and business. He can be reached at kirsner@worldnet.att.net.



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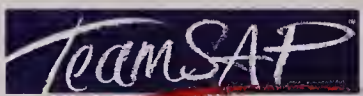
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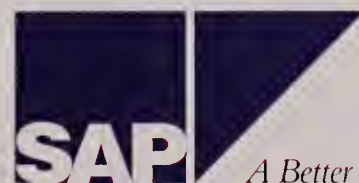
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Lawmakers are struggling to dot the i's in digital signature legislation. Maybe they shouldn't bother.

BY FRED HAPGOOD

ONE OF THE MORE DELICIOUS FANTASIES PERVADING technical circles is that someday the Internet will allow society to dispense with laws and lawyers, at least in civil cases involving contracts and torts. The idea has plenty of skeptics, as it should, and yet sometimes it really does seem as though information technology is pushing us in exactly that direction. One forceful suggestion that current laws are practically incompatible with the evolving capabilities of the technology is evident from the frustration state

higher degree of authenticity than written signatures because they are harder to forge—although they can be stolen.

An especially attractive feature of digital signatures is their ability to allow a text to be signed by many people; a text can be encrypted once by a procurement officer, then mailed to his superior who will encrypt it again with her private key, and finally mailed again to the bank holding the company's credit line for a third pass. A vendor decrypting such a purchase order can be confident of the identity of the person making the order, that she had the authority to make the order and that the company has the credit to support the purchase. Similarly, a digitally signed response to an RFP might come signed with one key from a party certifying that the bidder had a good credit balance and another from a reference bureau, testifying to his or her work history.

While all of these functions could certainly be performed on paper or with EDI, digital signatures are cheaper, faster and more flexible. As important as the security applications of the technology might be, many feel its future as a management tool is even rosier.

There Oughta Be a Law

For years it seemed obvious that to be useful digital signatures would have to be backed by the law. What good would they be if they weren't legal? What company would issue certificates if its executives didn't have a clear grasp of their liabilities in case they made a bad call? Who would accept certificates unless the issuing company was willing to accept some liability? And while the law is not always quick to address issues that are fundamentally technological, it did appear to respond quickly to this topic.

governments have suffered trying to impose conventional legal thinking on the new authentication technology known as digital signatures.

Digital signatures are based on a class of codes that have two keys. What is encrypted by one key can be decrypted only by the other and vice versa. If Alicia keeps one key private while making the other public, then any text that can be decrypted with her public key could have been encrypted only with her private key and therefore only by her. Such texts are said to have been "signed" by Alicia. In some ways, such signatures represent a





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In 1991, the American Bar Association formed a committee to draft legislation on the subject, and by 1995 one state, Utah, passed legislation based on the committee's work. In essence, the deal was this: Companies wishing to use digital signatures to certify facts about others (such as identity, credit rating and reputation) could limit their liability in return for paying a \$500 fee to an appropriate state agency, posting a \$75,000 bond and conforming to a fairly detailed set of regulations controlling procedures for handling certificates. (Details at www.commerce.state.ut.us/web/commerce/digsig/dsmain.htm.) But no sooner had the legislation passed, than enthusiasm for it began to cool. First, the fee structure seemed incompatible with the global ambitions of the technology. Were companies that hoped to use digital signatures expected to pay fees and post bonds in every jurisdiction on earth? As of this writing, two years later, exactly one company has signed up.

Last May, the California legislature passed a more restrained law that required no fees and established no new state agency. It simply described a set of criteria that would allow a company to appear on an approved listing of authorities who were certified under that state's laws. One business implication of the law was its presumption that if and when the state started using digital signatures, its agencies would feel compelled to do their procurement through companies on that list.

This was an improvement over the Utah legislation—backers viewed it as more technology-neutral—and, as of this writing, 10 states have followed California's lead. However, even that law has spurred objections, specifically over the thorny problem of detail. To a lawyer, detail is a good thing; it makes clear when suits can be filed and when they can't. However, detail in a law governing such a new technology, especially one fated to penetrate so many jurisdictions in such short time, was more problematical than most.

For instance, the Utah law prohibited companies from giving operational responsibilities to any employee convicted of a crime involving deception within the past 15 years. Suppose some other state or nation imposed a different limit, or

defined "operational responsibility" or "deception" in other ways? How were those differences to be handled? Would each certificate have to reflect the laws pertaining to the specific jurisdictions involved, or should they be made generic, and if so, by whom and how?

The same problem arises with the California criteria. For example, a company on the list will be dropped unless it submits proof of continued compliance every two years. But obviously there's nothing magic about a two-year time frame. Such differences would, of course, arise in an unregulated sector, but in the private sphere variations could be ironed

out. Formal, explicit exchanges of authority and authentication will characterize more relationships and change more rapidly than in the era of paper contracts. Managing this transition even within a single company is complicated enough, requiring close continuous consultation among corporate counsel, core management and CIOs.

Greenwood's view is that until we know about how these new reputation economies will work, legislation on any level would end up doing more harm than good. His argument seems to draw strong support. He adds that, on the basis of his experience in state govern-

"Perhaps too much emphasis has been given to the role of government as lawmaker."

—Daniel Greenwood, Massachusetts deputy general counsel

ment, many organizations would benefit from running an "authentication audit" that carefully examined who has to approve what, when. One of the side benefits of moving to digital signatures is that this audit occurs automatically as a necessary part of the transition.

Make No Law

As these considerations have simmered, they have engendered something resembling a race to the regulatory basement, with various states competing for the honor of ruling with the lightest hand. The winner so far seems to be Massachusetts, which has proposed a draft law that did nothing but rewrite statutes to make sure that parties were free to use digital signatures if they wanted to.

"Some laws required writings on paper and signatures in ink," says Daniel J. Greenwood, a Massachusetts deputy general counsel working in the IT division of state government. Greenwood thinks that once digital signatures have been made not illegal—as opposed to being made legal—governments should wait before assuming further roles in regulating electronic commerce. "Important though it may be, perhaps too much emphasis has been given to the role of government as lawmaker," he says. Digital signatures inaugurate a new trust infrastructure in world commerce:

ment, many organizations would benefit from running an "authentication audit" that carefully examined who has to approve what, when. One of the side benefits of moving to digital signatures is that this audit occurs automatically as a necessary part of the transition.

For the moment, digital signatures exist in a benign legal limbo. Their usual application is in cheap browser-server authentications (as in SSL). Vendors accept no liability whatever for these exchanges, but the technology seems useful enough anyway. Beyond this is a range of experiments within networks of established business relationships, often using intranets or extranets. These are controlled by negotiations worked out on a case-by-case basis, by preexisting contractual relationships or by regulations governing the overall business mission, such as the rules defining credit card liability.

In time, the role of the state will likely clarify itself and more appropriate laws will be based on that enlightenment. Or perhaps all the players will find life in this libertarian limbo pleasant enough for a protracted stay. **CIO**

Fred Hapgood is a Boston-based freelance writer. He can be reached at hapgood@pobox.com.

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Janet Wejman, Senior Vice President
and CIO, Continental.



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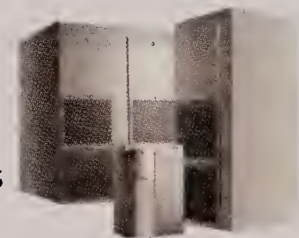


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Transactions in the Age of the Consumer

Internal MEDICINE

Diagnosing a potentially fatal industry shakeout, medical-book publisher Williams & Wilkins prescribed a potent intranet that is already boosting its chances of survival

BY ANNE STUART

FROM OUTSIDE WILLIAMS & WILKINS CO., THE REVOLUTION IN PROGRESS ISN'T obvious. But spend a little time at the medical-science publishing house, located in a renovated railroad warehouse next to Baltimore's Oriole Park at Camden Yards, and you'll soon hear about how the company's ambitious intranet project is changing just about every employee's job. Known as the Wave, the intranet provides a single source where Williams & Wilkins employees can access a lot of information about every Williams & Wilkins book, journal, CD-ROM, video and software product—from initial proposal to final inventory.

As a result, the Wave is reshaping or sweeping away business processes that, in some cases, had changed little in the company's 108-year history. By creating an online repository to replace file cabinets full of paper records that were often outdated and unreliable, the Wave is eliminating the need for employees to physically track down documents and double-check information with colleagues.

And company officials credit the Wave with promoting greater efficiency and productivity as well as with spawning lucrative new opportunities thanks to its integration with the online store on the company's public Web site.

For Becky Himmelheber, a medical-education textbook marketing manager, the Wave makes it possible to find the latest

Reader ROI

IN THIS STORY READERS WILL learn how a tradition-bound company

- ▶ Looked to intranet technology to stay competitive in a changing industry
- ▶ Leverages an intranet to create a new sales channel
- ▶ Combats employee resistance to new technology

CORPORATE PROFILE

COMPANY: Williams & Wilkins Co., a division of Waverly Inc.*

FOUNDED: 1890

BASED: Baltimore, Md.

URL: www.wwilkins.com

LINE OF BUSINESS: Leading global publisher of trade science,

medical and allied health books, journals and electronic media

REVENUES: \$170 million in 1997

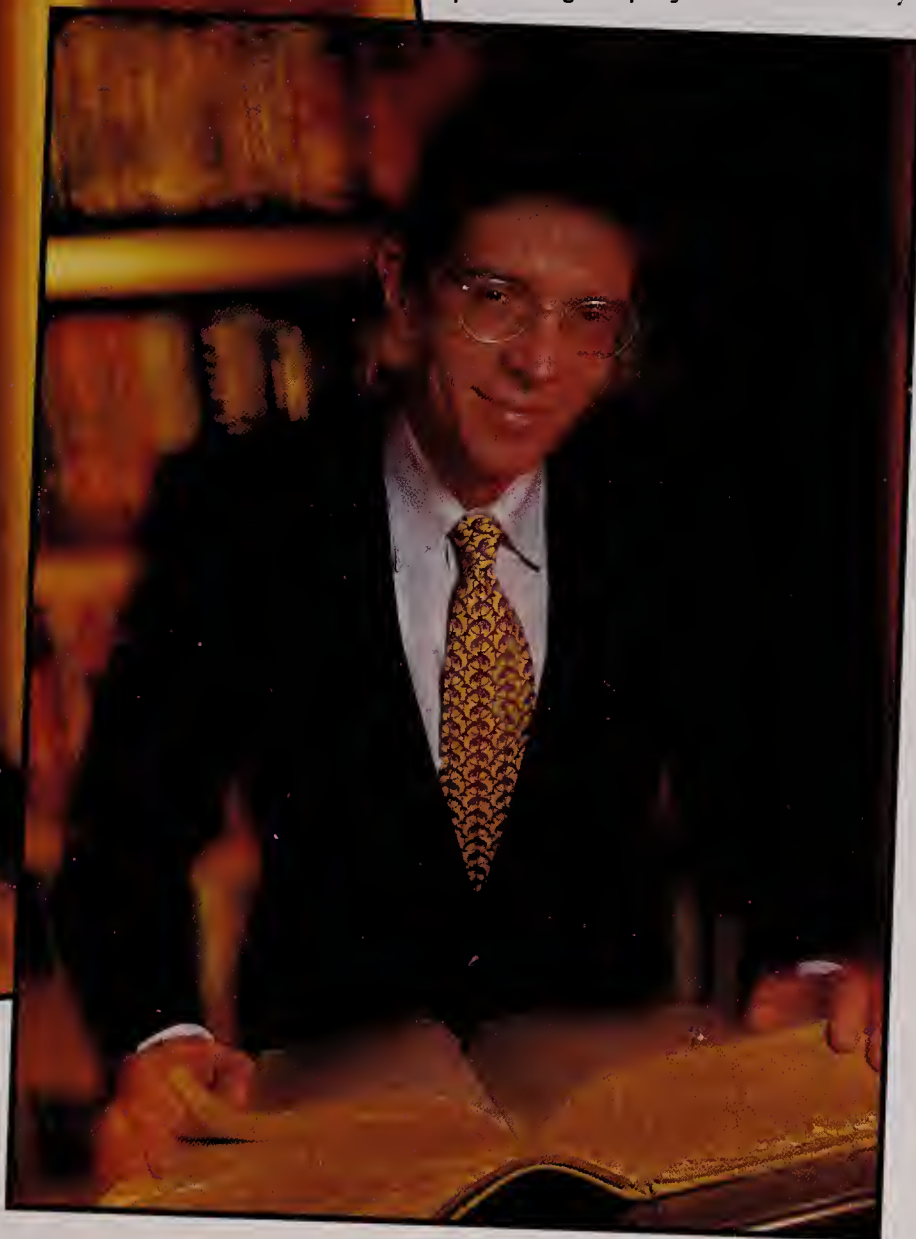
EMPLOYEES: About 630 worldwide

**Company was offered for sale late in 1997; sale pending in early 1998.*



CEO Ted Hutton, left, hopes to turn a \$315,000 investment into \$1 million in sales.

Below, Executive Vice President Arthur Newman: "We're not trying to become a technology company," he says about the intranet. "We still want to be a publishing company."



page counts and prices with a few mouse clicks instead of with dozens of phone calls. For Tim Moran, an associate international marketing manager, it means spending less time in Baltimore answering questions from the company's sales force and more time out in the world talking to customers. Asked to sum up the Wave, Moran says simply: "It expedites everything." And because the Wave's database also automatically updates the online catalog on the company's public Web site (www.wwilkins.com), CEO Ted Hutton envisions turning a \$315,000 investment into \$1 million in sales. At least that's the hope. (See "More Profits in Store," Page 38.)

At the same time, the Wave isn't yet universally accepted: Some users complain of struggling servers and some still

resist its use. Even the project's champion, Christopher O'Callaghan, a manager in the company's Publishing Resources Group, says he's got at least 60 items on his wish list for upgrades and enhancements, like tying the Wave into the company's fulfillment systems and expanding its offerings for international users. Still, the Wave earned the project a WebMaster 50/50 award (see "Superior Interiors," *WebMaster*, August 1997), and it bears examination not just in terms of how it has changed life at Williams & Wilkins, but for what its implications are for other trade publishers—and for any other industries that can benefit by using a Web-based proj-

ect management system.

The Williams & Wilkins story dates to 1890, when a teenage printer named John H. Williams opened a small print shop in downtown Baltimore, eventually taking on a partner, Henry B. Wilkins. Although both moved on to other pursuits before the turn of the century, their company had already become so well-known that

succeeding generations of owners never shed the founders' names. Over the next several decades, Williams & Wilkins began publishing medical and scientific books and journals, steadily acquiring smaller trade publishers.

In the 1980s and early '90s, the company phased out its printing business and began producing software, CD-ROMs and videos as well as putting products online. Williams & Wilkins also continued expanding internationally, acquiring, among other businesses, a major German publisher, Urban & Schwarzenburg.

But English-print publications, sold primarily to wholesalers rather than to readers, remain the core product line of Williams & Wilkins. This year, the company will publish about 150 new editions, not including software from its Professional Learning Services

Division, in addition to about 40 professional journals and 500 existing volumes in the sciences, medicine, surgery, pharmacy, chiropractic, dentistry, veterinary medicine, nursing, allied health fields such as nutrition and physical therapy, test preparation and reference. Typical titles are *High Yield Gross Anatomy*, *Grant's Dissector*, *Finance for Nurse Managers*, *Low Back Pain, Fifth Edition* and the famous med-school tomes *Stedman's Dictionary* and *Gray's Anatomy*.

Meanwhile, says Executive Vice President Arthur Newman, the company—like its competitors—faces a shrinking market. Newman says industrywide sales dropped about 4 percent in 1996.

COVER STORY: INTRANET PROFILE

Managed care has prompted its ultimate customers, health-care professionals, to pare down their own spending. Now, once they're out of medical school, health-care pros choose books in only

in medical publishing," the company's 1996 annual report warns. To guarantee that it will be among those left standing, Williams & Wilkins recognized a few years ago that it needed to move fast to

Information was "scattered all over the company, and not everybody had access to it," recalls Cheryl L. Lincoln, director of network services. And the most important documents—the "green sheet," or initial publishing proposal, and the *Title Wave*, a twice-a-year product-information newsletter for the sales department—were handled on paper. Nobody kept a master copy. That meant, for instance, a book editor and a marketing manager might each update their own green sheets with revised publication dates—without bothering to inform each other about the changes. To find out when the book would actually appear in print required plugging into what CEO Hutton calls "the informal network"—in other words, like Becky Himmelheber, making phone call after phone call

From the start, the executive team maintained a clear, narrow focus for their intranet project, opting for an information repository, not a workflow product.

two, or at the most, three categories instead of buying books in their specialty and five other areas.

For that reason, the company expects some fallout in its own industry over the next two years. "The focus on containment of health-care costs in North America, Europe and Japan will continue to serve as a drag on our market's growth and cause further industry consolidation

sharpen its competitive edge.

To do that, the company looked to the Internet. Like everyone else, the company initially focused on its public Web site. Erected in November 1995, the site put the company's entire catalog online, but the information, getting stale even before the hard-copy catalog saw print, was updated online only once a month.

And updating was no easy task.

More Profits in Store

For Williams & Wilkins, an intranet is seen as a way to streamline in-house operations, but CEO Ted Hutton hopes for some external rewards, too

WILLIAMS & WILKINS CO. DEVELOPED its intranet for the usual reasons: making in-house processes, collaboration, and communication faster, better and cheaper.

But Ted Hutton, the Baltimore-based medical-science publisher's CEO, believed from the start that the Wave might wash up significant external revenues as well.

That concept became reality in October 1997, when Williams & Wilkins started using a secure server, letting the Wave sell 2,000 books, journals and electronic products directly from its public Web site (www.wwilkins.com).

The company had listed its products online for nearly three years, and customers could even order through the site. But before, transactions weren't secure, and the online version was constantly out of date. Now, though, it's highly secure and updated daily with information from

the Wave, sent automatically by FTP each morning.

Suppose a marketing manager gets enthusiastic reader comments about *The Journal of Trauma*, which would enhance the catalog text for that monthly professional journal. "Before, you'd e-mail a request" to Web developers asking them to put the comment online, says Christopher Brenchley, Williams & Wilkins manager of Internet sales and service. "Now you just key in and customize the [internal] product description to include a testimonial, and it's reflected in the store the next day."

Something's working: On its first day in business, a Saturday, the online store earned nearly \$3,000 following a launch with no advertising or promotions.

Hutton says the store, launched for about \$65,000, attracted about 60,000 visitors a month and earned \$300,000 in

1997; he projects \$1 million in sales for 1998. Not a shabby return on the company's \$315,000 investment in the Wave and the online store. "Savings [from online sales] are significant because the costs are fixed and, to a large extent, a byproduct of what we already need to do," such as generating product information for other channels, Hutton says. It also costs less to sell a book online than by direct mail or in person.

But Hutton says the company's human sales force isn't complaining. "I believe that the Internet will enhance sales in all channels," he says. "Some people want to touch and feel the product before buying and will visit a bookstore or a rep's table at a meeting to preview the product."

As spinoffs, the company also launched a medical clip-art sales site (www.mediclip.com) and a separate site for its flagship Stedman's medical-reference



Manager Christopher O'Callaghan, left, met with developers every week to keep the intranet project on track. Marketing Manager Becky Himmelheber's enthusiasm for the intranet helped woo reluctant users.



guides (www.stedmans.com). And these developments are just the first steps. "It's a segue to other Web pages where [customers] can order information and have it delivered over the Web as opposed to ordering a book and having it mailed to them," Hutton says. The company also hopes its online store will reach nontraditional customers by creating greater awareness of new titles like *Conversations about Cancer*, targeted to the general public, as well as product lines designed for other professionals, such as lawyers and insurance executives. Ultimately, Williams & Wilkins might even offer distance learning, allowing its target audience of health-care professionals to earn their required continuing medical education credits online. "The Web is a perfect place...to deliver information and questions, documentation and scoring," Hutton says.

—A. Stuart

to find the right person with the right date.

Things were even tougher for salespeople who pitched products to the company's customers, primarily wholesalers and college professors. Because their heavy paper-stuffed binders were updated only twice a year, they, too, typically hit the phones, calling marketers at the Baltimore headquarters to get accurate information.

These actions hardly set the scene for Williams & Wilkins to provide the high-speed, high-accuracy customer service that executives deemed critical to the company's survival. The executives realized they needed a single cradle-to-grave repository of information about every product, accessible around the clock from anywhere in the world. They needed it quickly—within six months, if possible—for an initial investment of \$250,000.

From the start, the executive team maintained a clear, narrow focus for their

project. They wanted an information repository, not a workflow product. They wanted to streamline and speed up existing processes, not create new electronic ones. As Newman puts it, "We're not trying to become a technology company. We

still want to be a publishing company." And they wanted it to look as familiar as possible. For that reason, the standard Web-browser interface includes buttons for the green sheet and *Title Wave*, even though the former is entirely electronic and the latter appears on paper only twice a year.

While Williams & Wilkins had business vision, it didn't have the in-house technical expertise necessary to develop such a groundbreaking project. Most of its outsourcing candidates had no comparable experience either. So the company selected Century Computing Inc., of Laurel, Md. (www.cen.com), a 19-year-old company whose résumé included the creation of Internet-based medical research tools for the National Library of Medicine in Bethesda, Md. In spring 1996, three Century developers spent about six weeks studying Williams & Wilkins, interviewing editors, marketing staff, salespeople and others. Throughout the four-month development phase, the three also met weekly with

O'Callaghan who served as the company's point man on the project. "In my mind, that was half the reason for [the Wave's] success," Century Solutions Manager Andrew J. Musliner says of those meetings. The other half, the intranet's developers say, is what the Wave offered employees—although Williams & Wilkins continues to work on convincing some employees that the benefits are worth the effort to change time-honored ways of doing their work.

Launched in November 1996, within two weeks of its target date, the Wave is a customized database of all product information, ranging from author contact information to product costs to catalog text. To standardize page layout, the developers turned to the Sapphire Group's (www.sapphiregroup.com) PageBlazer, an off-the-shelf tool that automatically assembles information in preformatted pages that users can view



CIO and VP Marion Mullauer says reluctance to share product information faded when the company opened an online store.

on a standard desktop Web browser. Each department is responsible for entering its own information, and some departments even offer users different levels of information—such as the choice between brief two-line product summaries or full multiple-paragraph catalog descriptions.

People in marketing, editorial, production, administration, finance, sales, creative communications and customer service have access to the same “master copy” of the information. If somebody updates a file—moving up a publication date, increasing a page count, adjusting a price—everybody else can quickly find out. Naturally, there are controls, assigned by password as employees gain access to the system; only a high-level editor can increase the number of complimentary book copies, for instance, while only a top communications specialist can rewrite catalog text.

Initially, the company and its outsourcer considered naming their creation Homer, both in reference to the home runs hit at the Baltimore Orioles’ ballpark next door and—because they’re in

COVER STORY: INTRANET PROFILE

the publishing industry—as a reference to the author of the ancient Greek *Odyssey*. What they found, though, was that people more typically associated it with cartoon buffoon Homer Simpson. Finally, somebody came up with the Wave, a reference to Baltimore’s nearby harbor as well as, of course, the *Title Wave*, the company’s newsletter for marketers.

The launch wasn’t without hitches. Due to a bug in Netscape Communications Corp.’s Navigator browser, Musliner says, Java Script sometimes hiccuped as employees tried to exercise some of their much-ballyhooed empowerment by entering or updating information. Overall, though, technical problems were so minor the team spent less than two days ironing

them out in the first six months online. Tougher to overcome was some employees’ tradition-bound skepticism, their uncertainty about whether to view the Wave as a threat or an opportunity. “They say that if you build it, they will come,” Newman says. “But they weren’t exactly knocking the door down.”

To woo users, the developers seeded the company with advocates, true believers, in critical areas, including Himmelheber in marketing. They distributed a

viously had desktop Internet access, the developers scheduled half-day sessions training people how to enter and retrieve information, find related products for upselling and scope out the competition. And the developers applied a little tough love to force behavior changes. For instance, they eliminated the hard-copy green sheet, forcing employees to turn to the Web as the sole source of product development information.

Executives also attributed some resistance to the Williams & Wilkins decentralized culture, which is segregated into distinctive product lines and grows increasingly complicated as the company absorbs employees from the smaller specialty publishers it regularly acquires. (O’Callaghan, for instance, came aboard when Williams & Wilkins swallowed up the smaller test-preparation publisher where he was employed.)

“Those who resisted had their own product information and didn’t feel the need to share,” says CIO and Vice President Marion Mullauer. But some reluctance to collaborate internally withered late in 1997, when Williams & Wilkins opened an online store on its external site. Visitors can buy products directly from the public site, making their choices from the online catalog, which is updated daily with information from the intranet. That’s prompted many ex-holdouts to ride the Wave. “Now it is being used in a way that affects them,” Mullauer says. “They want to make sure it’s presented correctly on the [public] site, so they need

For marketers, the intranet not only centralizes all the data they need, it lets them quickly disseminate new competitive intelligence to salespeople.

wallet-sized brochure to everyone in the company, listing early champions and trumpeting the Wave’s benefits: “Instead of stacks of paper, hard-to-read handwriting and conflicting facts, you can have a clear view to each journal, book or electronic product...[you] can search for one product, or a group of products, by title, author, specialty and more.” Because only a handful of employees pre-

to take it seriously.” In one such example, a book editor realized the importance of keeping Wave data current after one of her authors called her to complain after seeing incorrect information about himself on the company’s public site. The frantic editor “suddenly became very interested in the Wave,” O’Callaghan recalls. Others took to the Wave like ducks to a pond. For marketers, the

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COVER STORY: INTRANET PROFILE

intranet not only centralizes all the data they need, it lets them quickly disseminate new competitive intelligence to salespeople, who in turn can use it to close deals. For example, the latest information on similar books produced by rivals, comments from readers, and suggested sales strategies based on the product's features and benefits can be shared among marketers and salespeople quickly and efficiently. Marketers can even update the database fields with potential objections and recommendations about responding to them. Suppose an objection says, "The last edition lacked enough illustrations." The suggested response is, "This edition is lavishly illustrated, with 65 color photographs, 19 charts and a dozen diagrams." For the first time, says Peter Darcy, a clinical marketing manager, "the competition is ingrained in the product and how it relates to the customer from the beginning."

It also allows marketers to incorporate new information about products. Before the Wave, positive book reviews simply went into a hard-copy file. What happened to them there? "Probably nothing," Himmelheber admits. Now excerpts can be keyed into the product record, giving salespeople yet another selling point. And if, even with all that available information, Himmelheber has a question, the Wave will tell her whom to contact, because each record lists all employees associated with that particular product.

The Wave has also streamlined the print-catalog production process. Because all product information in the catalog is now updated automatically by the Wave, the production process for the hard-copy catalog has been cut from four months to a matter of weeks.

Tim Moran from marketing says sales reps no longer need to call him for information—book prices, page counts, details about the author and so forth—because they can get the most current information themselves from the Wave anytime. "It gives you the opportunity to do more meaningful—and ultimately more profitable—things with your time," he says. For Moran, that means traveling more often to meet customers in locations as distant as Germany or Jamaica. In addition,

he says, "it makes our field offices feel more part of the whole show because they're more tied into" the Baltimore headquarters.

The company's Baltimore-based customer service force can use the Web to "upsell," or suggest additional products. For instance, if a nurse calls to order *Nursing Care of the Cardiac Patient*, a software product by Linda Baas, the salesperson can quickly search for titles and descriptive information on other books by Baas or books and software by other authors on cardiac care, and then suggest them to the caller.

Because of that capability, the upselling goals at Williams & Wilkins increased by \$1 million in 1997, CEO Hutton says. They also hope to sell at least \$1 million in 1998 through the online store on the company's public site, most of it in new sales at significant savings.

Beyond that, though, Hutton can't quantify the company's return on investment in the Wave except to note that "we knew the savings in people's time and accuracy of the information was worth it."

At the same time, riding the Wave offers its own dangers. Some users complain of frequent server downtime. "It does not make my job easier when I can't get into the Wave," says Elizabeth Dillon, an assistant to an acquisitions editor. Although the company continues to promote companywide acceptance, some product lines aren't always fully represented online, meaning that em-

OUTSOURCER PROFILE

COMPANY: Century Computing Inc.

FOUNDED: 1979

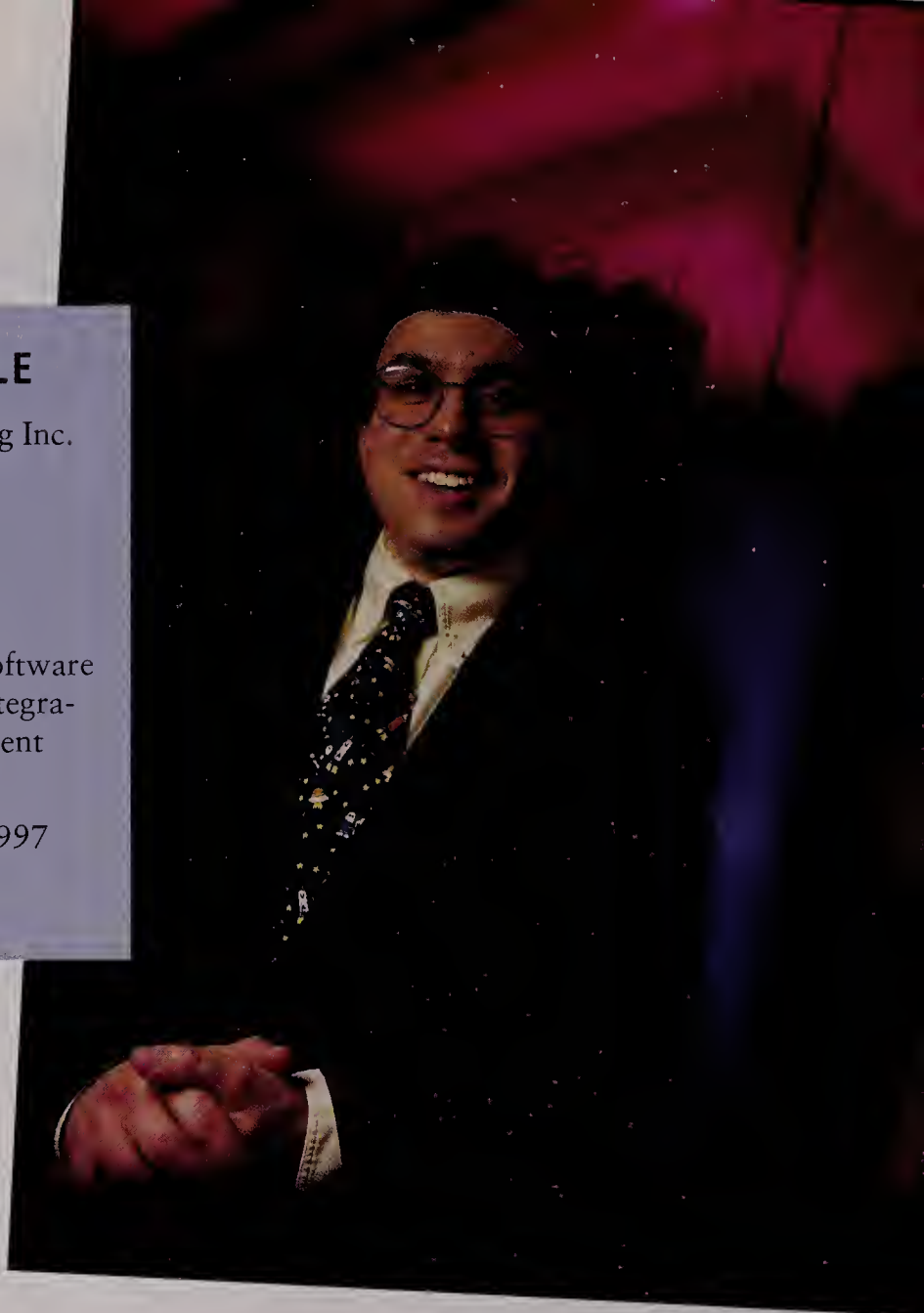
BASED: Laurel, Md.

URL: www.cen.com

LINE OF BUSINESS: Custom software solutions and IT systems integration, primarily for government and Fortune 1000 clients

REVENUES: \$10.5 million in 1997

EMPLOYEES: 90



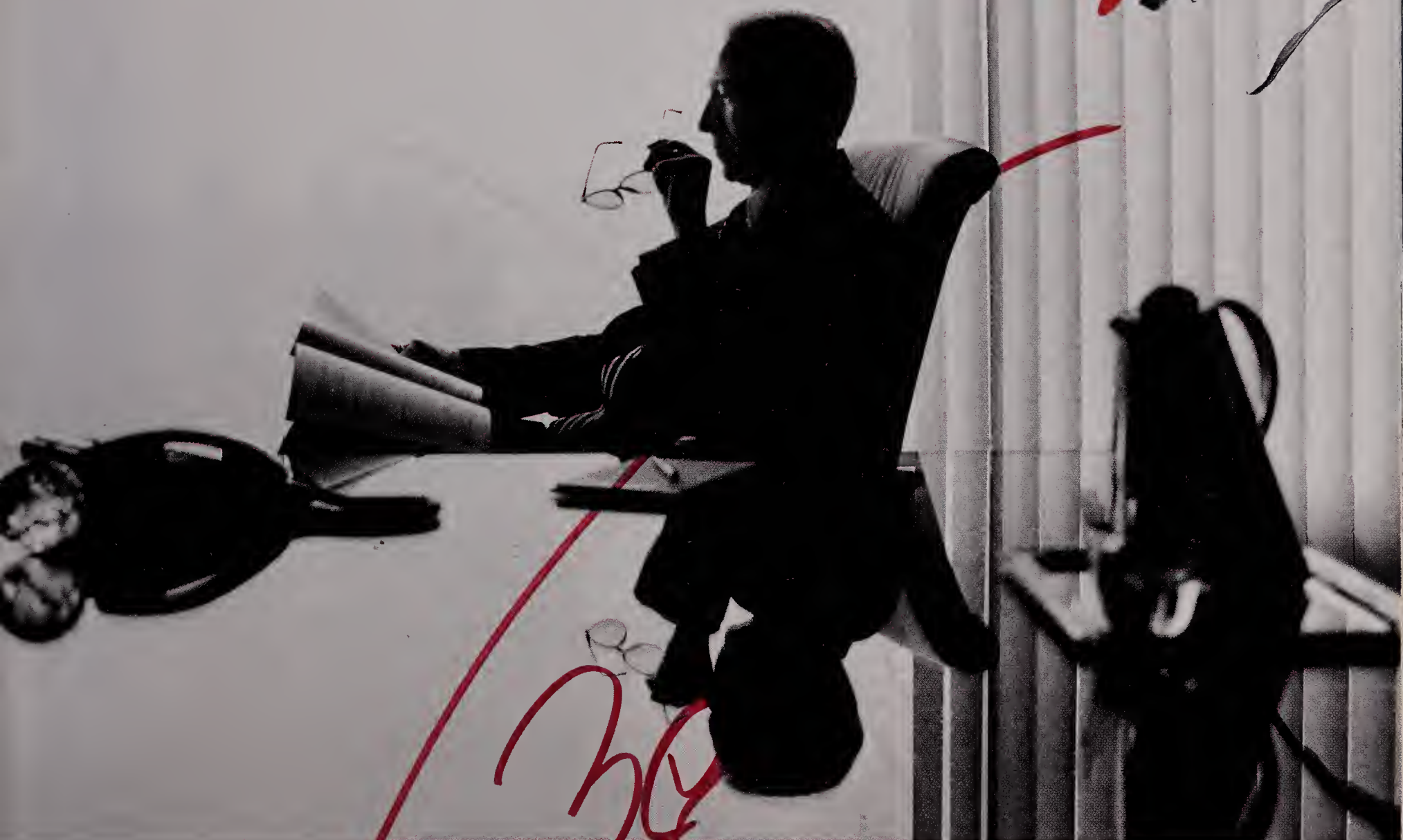
Although Manager Andrew Musliner of Century Computing experienced some technical glitches, skepticism among Williams & Wilkins employees proved more troublesome.

ployees like Dillon occasionally must still pick up the phone or search for the most recent hard-copy green sheet. Some new users initially found the Wave interface too cumbersome, with too many choices, but developers have since streamlined the interface. Others would like to see capabilities that would allow users to analyze or project sales or develop budgets, for instance.

"Even now, while it's a good acceptance rate, it's not universal," Newman acknowledges. But he and others believe that as the Wave, like the Web itself, continues to revolutionize their industry, more and more employees will become diehard fans. And Century, which believes the technology offers the opportunity to overhaul other industries as well, now sells the Wave as a customizable publishing asset-management solution. "We never expected to hit a home run right upfront," Newman says. "We just wanted to get on base." **CIO**

Managing Editor Anne Stuart can be reached at astuart@cio.com.

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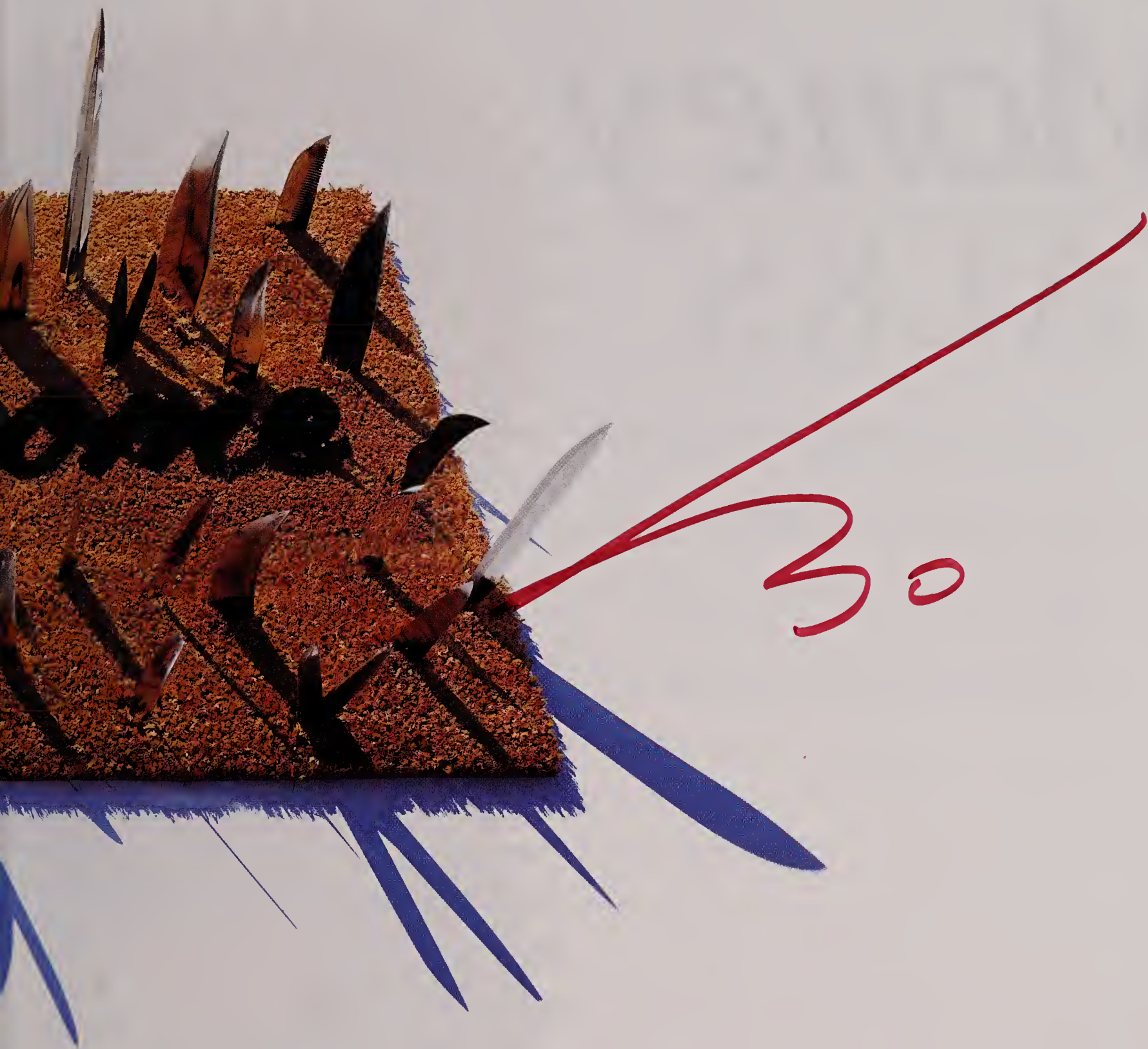


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Money TALKS

*Five venture capitalists tell us what
they look for in today's Web startups
and how their investments will
change your business tomorrow*

BY ALEX FRANKEL



Why would someone invest millions of dollars in a Silicon Valley startup named after a family dog, which was itself named for a word meaning enlightenment in some long-forgotten Swedish tongue? Because despite its otherworldly name, Kana Communications Inc. is exactly the kind of company that venture capitalists pursue: It's Web-focused, well staffed and promises to relieve a

major problem that afflicts most large corporations—in Kana's case, death by drowning in seas of e-mail. By all appearances Kana is a winner, and for venture capitalists, picking winners is everything. According to Kirk Walden, who directs the National Venture Capital Survey for Price Waterhouse, venture money invested in Internet-related companies has increased from \$133 million in 1995 to \$872 million in 1996 to \$1.3 billion in the first nine months of 1997. Much of that money, and much of the \$11 billion-plus invested by VCs in 1997, will never be seen again by its investors—*some VCs say that 6 out of 10 startups die*. But those technology companies that do win tend to win big, and top-tier venture capital firms like Sequoia Capital and Kleiner, Perkins, Caufield & Byers claim that they can make 50 and 100 percent annual returns on winning investments.

Clearly, the recipe for such success is not easy to come by. So how do the more than 600 active VC firms in the United States pick the winners from the majority of technology startups that simply burn money and file Chapter 11? *What do they know that most investors don't and how do they know it?* We asked five venture capitalists about their research strategies for Web technologies and which attributes of a startup might persuade them to pull out their checkbooks. Their comments tell us not only what kinds of technologies venture capitalists are betting on but why those technologies are likely to make next year's businesses run faster and leaner.



Technology, VCs say, is the first thing they look at, but talent is not far behind. If the technology looks hot yet the talent seems lukewarm, some VCs might send in the kind of leadership necessary to compete on the high-tech battlefield. All the VCs contacted for this article were less interested in new and unproven technologies and more intrigued by two sorts of applications: common-sense applications that work here and now providing solutions to problems that are costing businesses money and applications that will make the Internet a more effective business tool.

Going Postal

ONE NEW TECHNOLOGY THAT REPORTEDLY had VCs waiting in line, for example, is Kana Communications' Customer Messaging System, an e-mail management software that allows a step-by-step means to read, route and answer e-mail. Kana's promise to relieve an enormous pain is what caught the eye of David Beirne, a partner of the venture capital firm Benchmark Capital, the lead investor in Kana.

Before committing a penny to the young company, Beirne did what most VC investors do: He called a few friends for input. He asked them whether it would be wise to invest in a technology that would help large outfits manage tens of thousands of incoming e-mail messages. Beirne called Michael Dell, CEO of Dell Computer Corp., who agreed that the e-mail storm had only just begun. He called Ron Ponder, the CIO of AT&T, who also gave a thumbs-up. What Beirne heard persuaded him that the problem of e-mail inundation was widespread and potentially expensive. The implication was that the market for any solution would likewise be widespread and lucrative.

Kana Communications Inc.

Pain: E-mail, e-mail and more e-mail. No way to separate the wheat from the chaff.

Solution: A software program that allows an e-mail jockey to handle thousands of incoming messages in an orderly fashion.

Funds Raised: \$4 million

All fund totals in this article were provided by Venture One Corp.

When Beirne looked beyond the technology to the talent, he saw Kana CEO Mark Gainey, who had himself worked as a venture capitalist with Boston-based TA Associates. It was Gainey who had named the company after his dog, and it was Gainey who started researching the e-mail problem two-and-a-half years ago. With the help of graduate students from Stanford

University, he begged, borrowed and stole some 75,000 real e-mails that had been sent to people in large companies. The e-mails helped Gainey learn not only what customers wanted but how companies could more easily process the requests. In late 1997, he signed up Pacific Bell, Netscape Communications Corp. and PointCast as beta partners, and the companies put the product to work. These users would also help out later when the product was marketed.

Beirne was impressed with the scope of Gainey's research as well as with Gainey's personality. In September 1997, the two sat down at a table in Palo Alto, Calif., and Beirne persuaded Gainey to take \$4 million of his firm's cash for immediate use.

Help for the Helpless

JNEIL WEINTRAUT WAS A TECHNOLOGY analyst at San Francisco-based investment bank Hambrecht & Quist, the company that took UUNET, Lycos and Netscape public, before he started 21st Century Internet Venture Partners, in partnership with existing VC Hummer Winblad in 1996. So far, 21st Century (www.21vc.com) has reviewed more than 6,000 business plans but has found only four companies worth investing in. The fund does not invest in Internet media or consumer software companies, but, says Weintraut, it is interested in "arcane technology that could help an organization squeeze another 30 percent out of its IP networks."

"In venture terminology," he continues, "that's where the pain is. We look for pain." Companies funded by 21st Century typically stand one year from shipping a product. It is axiomatic in venture capital, says Weintraut, that at least two companies are getting funding. "Each of the companies and their backers are betting that they have the best team," he says.

Weintraut and his partners found the kind of pain they were looking for in the hiring process many companies face. And they found a solution in Career-

CareerBuilder

Pain: Too many résumés, too many steps in the hiring process.

Solution: Automate the recruiting process from job posting to hiring.

Funds Raised: \$10.67 million

REDUX

REDUX

Builder, a two-year-old Reston, Va.-based company that was building and shipping software to automate the recruiting process. The company lists job openings from scores of companies on its CareerBuilder Web site (www.careerbuilder.com) and sells workflow client/server software that tracks incoming résumés and files them daily. In January 1997, 21st Century, along with New Enterprise Associates, invested \$4.6 million in CareerBuilder (www.netstart.com), and both firms invested another \$4 million in 1997, along with TTC Ventures.

"I saw a big market opportunity," says Weintraut. "These guys were first to marketplace, and they had talent."

The talent, he says, was a big draw, particularly because CareerBuilder founder Robert McGovern had a solid track record as vice president of Legent software and as a sales executive at Hewlett-Packard. It was, after all, the importance of talent that created a need for CareerBuilder in the first place.

Self-Service

STEVE BALOFF, GENERAL PARTNER WITH Advanced Technology Ventures, a VC firm with offices in Waltham, Mass., and Palo Alto, Calif., always talks to technical advisors before investing in technology ventures. "It's impossible to stay current on the technology side and the business side," says Baloff. For that, ATV (www.atv-ventures.com) turns to its Special Limited Partners, a group of technology experts deeply involved in the industries they cover.

"A lot of our value," says Ed Frank, one such partner, "is the ability to analyze hard-core technology." By day, Frank works as the executive vice president and founder of Epigram Inc., an ATV-financed venture that has developed an IP dial-tone access switch, but Frank also devotes an average of two days a month to weighing in on ATV investments, sniffing out technology prospects as an ATV point man.

Before ATV invested in a \$3 million first round of financing of Seeker Software (www.seekersoft.com) in February 1997, Frank spent some time with Seeker's CEO and founder Gary Durbin, examining the fine points of the Web-enabling software. Durbin explained that Seeker's WorkPlace is a suite of products that provides easy-to-use interfaces to various databases via the Web. Linked to a human resources back end like PeopleSoft, Seeker's HR Core product allows an employee to access, manage and even model information over a corporate intranet. A staffer could, for example, alter the withholdings from a paycheck or examine 401(k) benefits. With an intuitive interface that allows an employee to access and alter data, com-

panies save money by increasing data integrity and automation.

Information can also be routed better, with only designated employees viewing specific information.

Frank liked what he heard, and he liked what he saw in Durbin, who had started a successful software company called TesserAct in 1979, sold out to

Ceridian in 1995 and had a long tenure in the HR applications space. In 1996, Durbin put together the business plan for Seeker, including the all-important market validation, a list of just who would buy his application. When he began seeking outside funding, Durbin had already signed on Amoco Corp. and Wells Fargo Bank as beta testers.

One of Frank's goals in the evaluation phase is to determine whether the product is something a competitor could "knock off in a week or two." Those companies that fail to impress Frank usually have greatly underestimated the amount of time and effort it takes to deploy a product. Frank says he also calls on a customer's IT staff at using a new technology product. He doesn't recommend investment until he hears the right answer to one question: "Is this something that you would buy, that is solving something that you have never seen solved before?"

Barbarian Applications at the Gates

RAY ROTHROCK, GENERAL PARTNER at Venrock Associates (www.venrock.com), the venture capital firm that is a limited partnership of Rockefeller Family trusts, does not turn to an internal group of tech advisors.

Instead, he relies on an informal brain trust that includes IS veterans who work in the trenches, CIOs and consultants he knows from business school who sit in executive boardrooms. Questions that Rothrock asks himself before investing are, "Will the pain that the company is trying to solve be sufficiently high, and

Seeker Software

Pain: Client/server software and information databases are expensive and hard to use.

Solution: One simple interface for the Web, accessible by employee with a Web browser.

Funds Raised: \$3 million

REDUX

are there enough people with that pain?" Rothrock got "yes" answers to both questions when he considered the problem of managing multiple component software, problems like keeping track of applications such as Java or ActiveX that were downloaded from the Web and now resided within a corporate network.

One likely looking response was presented by a Seattle-based company called Appliant Inc., which was

Appliant Inc.

Pain: Too many applications downloaded onto a corporate network can wreak havoc.

Solution: Watch what comes in and where it goes.

Funds Raised: Nobody's talking.

building software to help companies track incoming applications, like a downloaded Web page, and through this provide higher levels of security and management.

Appliant Inc. was founded in September 1997 by Brian Bershad, an associate professor of computer science in the department of Computer Science

and Engineering at the University of Washington in Seattle, who had listened to dozens of CIOs complain about the difficulty of managing complex distributed services.

When CIOs talk to startups about their specific needs, "everybody is doing everybody a favor," says Bershad. "It gets the CIOs involved at an early level." Yet, he adds, some CIOs are afraid to talk about their problems. "You talk in order to validate, and you talk through the design, development, and then you have a beta, and then you have sales."

Rothrock believed in the solution, and he liked the fact that Bershad had a background in object-oriented software. In October Venrock invested in Appliant, but Rothrock won't mention any numbers. Until the product launches, he says, the company is trying to keep a low profile. So while competitors can search the Web and find pictures of the belly dancer who entertained Bershad on his 30th birthday, they won't find a word about what he's up to.

Sense from Nonsense

INVESTING IN THE WEB, SAYS NORWEST Venture Capital partner Promod Haque, has all the challenges of taming a new frontier. A dearth of talent prevails at the executive level, says Haque, because much of the CEO-level talent

went into working for the companies that fueled the client/server wave of the early '90s. The business models are new and untried, and management often has limited experience.

"The Web revolution has been pioneered by a lot of techies, very young guys or gals who are light on management experience," says Haque. "It is very challenging to back some of these companies because the business models are very new."

That challenge has not, however, dissuaded Norwest from funding Web projects. The VC company, which has raised more than \$1 billion and has offices in Boston, Palo Alto and Minneapolis, has developed definite likes and dislikes. It dislikes the many unproven business models of the early consumer Web companies and has turned away from the many companies with products like HTML editors as well as content providers. And it likes solutions to larger problems, particularly solutions that could be addressed on the Web.

In June last year, Norwest, working with other investors, put \$4 million into OnDisplay (www.ondisplay.com), a San Ramon, Calif.-based company that, Norwest believed, was about to relieve a major pain. Within HTML coding there has not been any way to transport data easily from something like a Web page to an existing operational system such as an application like Microsoft Corp.'s Excel. OnDisplay's product, CenterStage, uses pattern recognition and parsing technology to transfer data from any source that has a pattern. This can be Web pages, e-mail and spreadsheet reports. As a result, legacy applications can be connected with many relevant systems, and data can be turned into knowledge.

Haque was impressed with the fact that much of the

management team had come from Sybase Inc. And he was further impressed with the fact that CEO Mark Pine had been a vice president of the largest product division at Sybase, a division whose revenues had increased tenfold under Pine's tutelage. Haque saw little that was not to like. In June, he persuaded Norwest to invest \$8 million in the promising young company. **CIO**

OnDisplay

Pain: Can't move data from legacy systems to the Web and vice versa.

Solution: A GUI interface that allows data to migrate easily and at low cost.

Funds Raised: \$10 million

Staff Writer Alex Frankel can be reached via e-mail at afrankel@cio.com.



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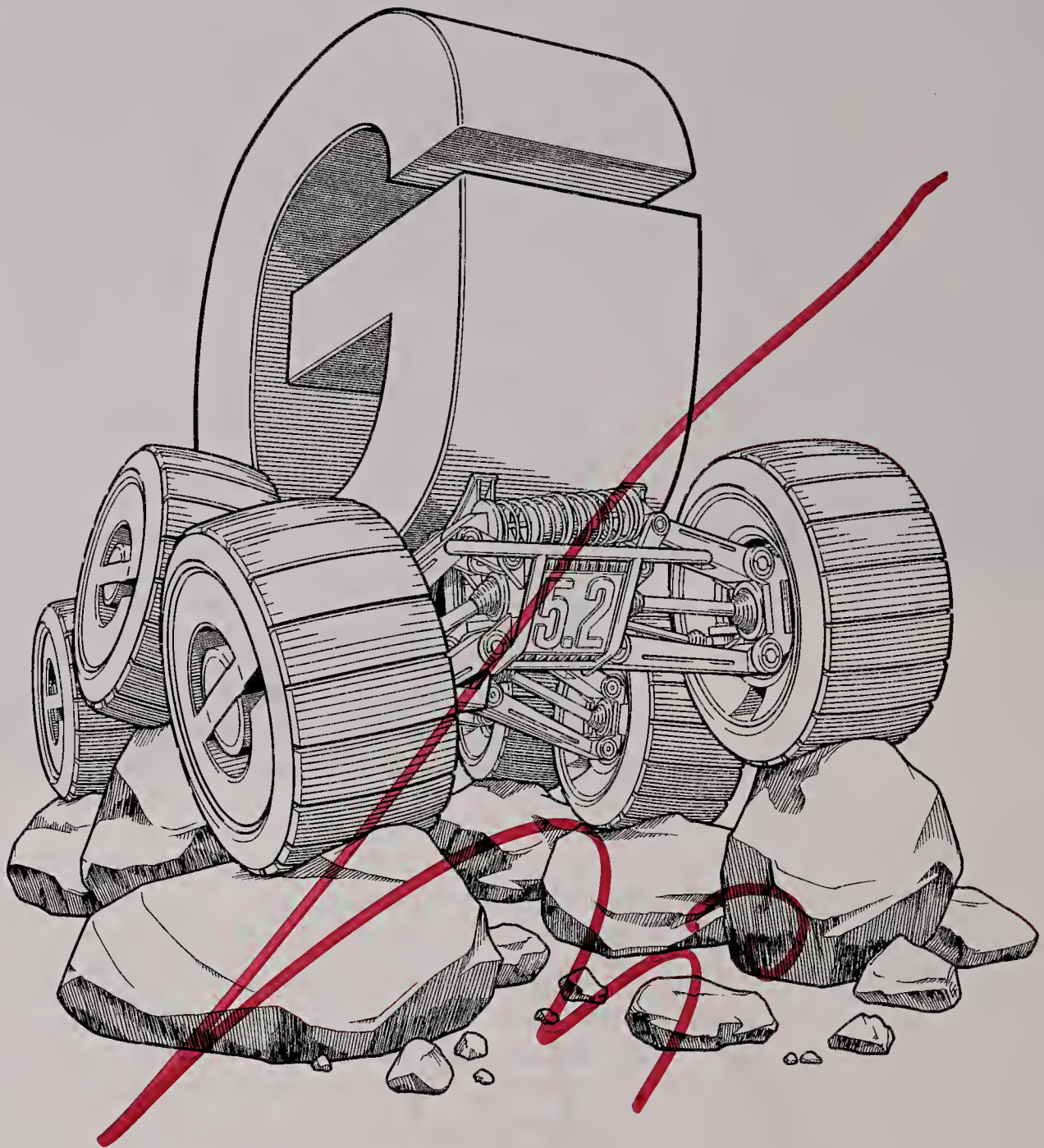
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*Increasingly,
successful Web
development
requires
redrafting—or
even erasing—
traditional
functional
boundaries*

BY LAUREN GIBBONS PAUL

It was easier in the years B.W. (Before Web).

Marketing people worked on getting leads for salespeople, who in turn sold things to customers, who received support from customer service people. Sustaining all of these units was the information technology staff.

Today, thanks to the Web, the once-distinct lines between functional areas are blurring. As companies move beyond those first “brochureware” iterations toward more dynamic, transaction-oriented sites, groups such as sales, marketing, customer service, IT and even human resources are setting aside politics and sharing turf in unprecedented ways. New-breed Web teams concentrate less on traditional concerns like

“Who owns the customer?” and more on ways they can all meet that customer’s needs.

“A Web site forces an organization to transcend the boundaries of traditional functional areas, taking on marketing, sales and customer service roles interchangeably,” says John Hearn, lead analyst for interactive marketing for Gartner Group Inc., the Stamford, Conn.-based market research company. Various functional areas must collaborate more closely than ever to be technically and politically prepared to exploit the new medium, he says.

According to Gartner research, only 7 to 10 percent of Fortune 1000 companies currently have cross-functional units with representatives from a variety of functional areas such as sales, marketing, IS and customer service.

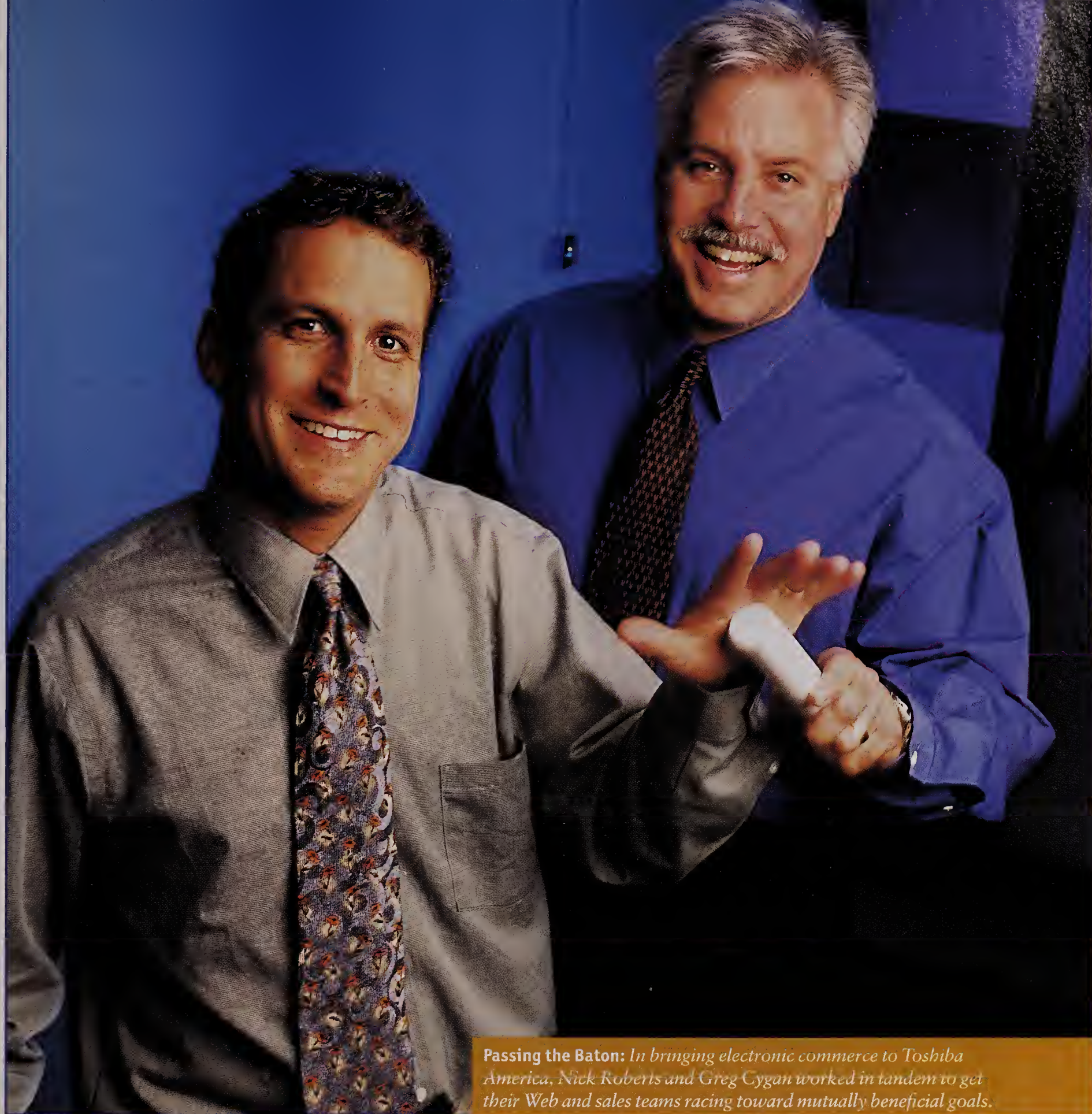
But Hearn predicts that within the next year, 80 percent of Fortune 1000 companies will have Web sites combining sales, marketing, customer service and other

Reader ROI

CAN THE WEB END CORPORATE TURF WARS?

This story describes organizations that forged innovative in-house partnerships for Internet or intranet projects. Partners say cross-functional alliances taught them to

- ▶ Work interchangeably as well as collaboratively
- ▶ Resolve questions about who owns information, projects or customers
- ▶ Overcome internal fears about Web-driven change
- ▶ Jointly focus on the end product, resulting in faster rollouts and better customer service



Passing the Baton: *In bringing electronic commerce to Toshiba America, Nick Roberts and Greg Cygan worked in tandem to get their Web and sales teams racing toward mutually beneficial goals.*

functions. Hearn says the development of such cross-functional sites is an example of a concept he's dubbed "TERM," or technology-enabled relationship management, because the goal of these sites is serving customers on their own terms, whether by traditional mail, e-mail, through their Web sites, by telephone or in person.

Often, intergroup collaboration begins when a basic marketing site expands to include transactions, requiring the sales department's involvement. When that happened at Toshiba America Information Systems Inc., salespeople got worried. "The sales force often feels

threatened. Their commissions may be at risk," explains Lee Dingle, worldwide director for interactive solutions for Cambridge Technology Partners Inc., a systems integration and consulting firm in Cambridge, Mass. "Or they feel they no longer own the customer the way they always did." Fortunately, salespeople at Toshiba and Cisco Systems Inc. were able to get past their initial fears to see that the Web frees them to focus on value-added, profitable tasks requiring a human touch, such as building personal relationships with customers.

Obviously, IS should be at the table

when organizations plot Web site strategies. And IS should look in the same direction as everybody else on the team, focusing on internal and external customers.

Indeed, when it comes to strategic focus, IS professionals at Chase Bank of Texas NA are nearly interchangeable with their human resources and marketing counterparts. They've gone beyond learning the business side's language to participating fully in charting Web strategy.

The three C's—communication, collaboration and compromise—are common to many successful new-breed Web teams. That formula takes time to per-

CROSS-FUNCTIONAL PARTNERING

fect, but the payoff is worth it. "You end up with the best possible Web site," says Ellen Schreiber, director of marketing for interactive solutions at Cambridge.

Toshiba America Information Systems Inc.

Brochureware just wasn't cutting it.

That was Nick Roberts' conclusion when he joined Toshiba America Information Systems Inc., the computer-maker arm of \$6.5 billion Toshiba America Inc., as webmaster for the company's Computer Systems Division in July 1997. Hired by the corporate marketing/communi-

needed to track the number of site visitors and their exact movements more accurately. The ultimate goal is a system that can follow visitors from surfing to sale.

Worse, Roberts felt potential customers got frustrated when visiting Toshiba's site because they could only input their information and then wait for a Toshiba sales rep to respond—which could take weeks. Meanwhile, Toshiba competitors such as Dell Computer Corp. and Gateway 2000 Inc. were already racking up millions of dollars daily in online sales.

Since he hoped to add online buying capability, Roberts knew he had to get

a new sales channel on the Internet because of the potential impact on their commissions. Clearly, Roberts needed to partner with a sales executive to resolve those issues.

Roberts met with, among others, Greg Cygan, vice president of national account programs, and Rocco Valente, vice president of sales for the corporate reseller group to talk electronic commerce.

They concluded that Toshiba needed to keep in touch with leads coming through its Web site and make sure those leads were generating sales. The group had examined the possibility of hot-linking to all reseller partners' Web sites (see "Proceed with Caution," Page 58).

The group decided to request proposals from all Toshiba resellers to identify the best possible electronic commerce partners. Roberts declined to identify the first partner selected; other resellers will have the opportunity to bid for the exclusive partnership every six months.

Toshiba sales executives also opted to give customers as many ways to order as possible, allowing them to either buy online or be contacted by a sales rep. For the online sales, Toshiba linked directly to resellers' Web sites. In addition, the company chose AT&T's InteractiveAnswers Service Internet telephony service in conjunction with reseller call-center support. Now Toshiba site visitors who elect to contact a sales rep answer two questions in electronic form: how many units they are interested in buying and approximately how many employees their company has. When this information is submitted, the site displays a "call me right now, toll-free" icon. After the customer types in a number, the telephone rings instantly. At the other end? Either an inside salesperson or the current partner reseller, depending on the information the customer had previously submitted. Exact criteria for which route will be offered a particular customer are still in development, but the company feels that it makes sense for inside and field sales teams to be involved in larger or enterprisewide orders and special bids. "This clearly aligns our inside sales team with the leads generated from the Web site," says Roberts.

Cygan wanted to be able to point to figures for sales generated hourly on the Web. That number will be easier to track because Toshiba will have only one Web reseller partner at a time.

Partnership Profile

Company Toshiba America Information Systems Inc.

Partnership Marketing and sales

Who came to the table Nick Roberts; webmaster from marketing; Greg Cygan, vice president of sales; Rocco Valente, vice president of sales of corporate reseller group.

Their wish lists Roberts wanted to move the site toward e-commerce while keeping sales firmly on board. Cygan and other sales execs did not want to lose touch with their Web site leads by handing them off to resellers.

How they worked it out In a single session they opted to give customers the best of both worlds: service via Internet telephony and online buying.

Metric of success New site rolled out after four months: two for planning, two for development.

Lessons learned Don't make changes with key players missing from the table. Get all key parties' input before moving ahead.

cations staff to spice up Toshiba's Web site (www.computers.toshiba.com), Roberts determined that the site provided basic corporate information but no "call to action," or online purchasing facility.

Roberts knew the marketing staff needed to move the site toward electronic commerce to make it grow. Site traffic was 1 to 1.5 million hits per day—adequate, but not the compelling online presence Toshiba desired. One major problem was the reporting system. Roberts was unable to determine exactly what those "hits" amounted to. For example, one visitor surfing the Web site could result in 40 or 60 hits—or more. Roberts

the sales side's buy-in and participation. But he was wary of alienating salespeople and causing a revolt. Before Roberts' arrival, the education sales group got so fed up with what he called corporate marketing's dawdling that they hired a Web developer to construct their own site, which didn't resemble the main corporate site. Having multiple Toshiba sites wasn't the strategic approach the company wanted to take. Roberts has been working with the education sales group to bring their site into the fold.

Money was another hairy issue. Salespeople and reseller partners would understandably be upset if Toshiba added

"The systems architects talk strategy. The HR people talk Java. And everyone asks excellent questions."

—Anita Ward

As a result of his close partnership with sales, Roberts views his job differently. "Marketing, advertising, sales...they're all elements of my job. It encompasses every department. I look at this as a coordinating job," he says.

And, Roberts predicts, Web projects will be the great equalizer of all corporate functions: "The Internet will do more to properly align companies than any other force out there. It will get companies to fly in formation like geese."

Chase Bank of Texas NA

At the Chase Bank of Texas, a spirited partnership between IS and human resources was the happy result of a re-engineering effort.

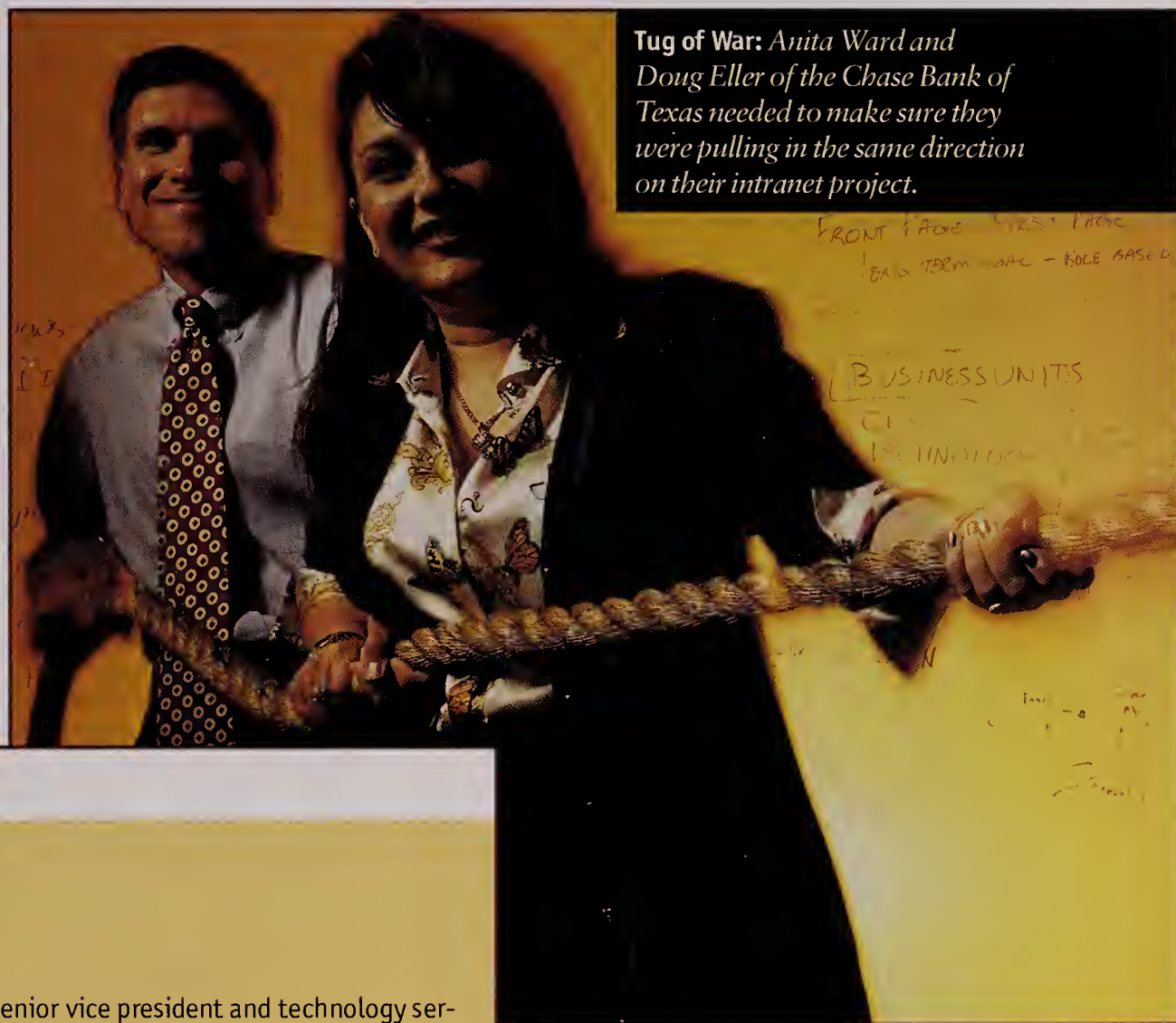
In 1994, the former Texas Commerce Bank (a Houston-based subsidiary of New York's Chase Manhattan Corp.) re-engineered and decentralized its structure. Part of that process was transforming its HR organization from a top-down, paternalistic culture to an employee-empowered one.

What that meant in practical terms

was installing a Web-enabled version of PeopleSoft Inc.'s PeopleSoft software on the Chase Bank of Texas intranet in 1997. Employees would control their own HR destiny by taking charge of all benefits activities and "owning" their own information. Anita Ward, the bank's senior

vice president and technology services partner, says it was a major shift for the HR organization to relinquish control of employee information.

Many PeopleSoft applications on the Chase Bank of Texas intranet are transaction-oriented. Employees can change their benefits elections and other personal information without human intervention. The system interacts with the employee throughout the process, confirming that the change he or she wishes to make has been accepted or sending e-mail notices that, for example, a certain form needs to be filled out to designate a dif-



Tug of War: Anita Ward and Doug Eller of the Chase Bank of Texas needed to make sure they were pulling in the same direction on their intranet project.

Partnership Profile

Company Chase Bank of Texas NA

Partnership IS and HR

Who came to the table Anita Ward, senior vice president and technology services partner; Doug Eller, vice president of sales; others from IS; and a grassroots team of midlevel HR professionals.

Their wish lists HR wanted employees to manage their own benefits while protecting sensitive information. IS wanted to remove security concerns.

How they worked it out Meeting in person a minimum of once a week with daily phone calls to report progress.

Metric of success System developed in just 12 weeks.

Lessons learned Use midlevel people on the team to reduce intimidation and encourage participation.

ferent life-insurance beneficiary. Later this year, even employee pay statements will be available on the intranet, further removing HR's aura of control.

The development effort—designing the interface, deciding what information the browser could access, defining workflows—was an entirely grassroots affair, says Ward. While her group coordinated with executives on various efforts—for instance, working with Doug Eller, vice president of sales, on a sales-force automation application for the intranet—the

actual development team came from the ranks. "We put together a team with representatives from IT and HR, mid-level managers and Web designers. They were not senior-level people," she says. Having front-line employees participate on the project contributed to the sense of group empowerment.

Ward's group was able to help the other functional areas over some technical hurdles, in particular, security concerns, that had been holding them back. It took some doing to convince the most senior HR executives the intranet was secure enough to store information about salaries, bonuses and performance

evaluations. "We drove the culture changes [within HR] by demonstrating that security technology works," says Ward.

The HR side found it relatively easy to relinquish control of information, she says, because the idea of employee empowerment had taken root after the 1994 reengineering. These days, HR people spend more time on satisfying activities, such as helping employees with professional development, and far less time pushing paper.

A secret to their success was investing upfront in partnership and cooperation. Because the intranet development effort brought together people who hadn't all met before, they invested a lot of face-to-face time once the project was underway. "You can't pull this off without constant in-person interaction," says Ward.

Nonetheless, she feels lucky to have avoided the political pitfalls common to intergroup collaboration. "Both sides gained a profound appreciation of what the other side had to do in the delivery of the strategy," she says.

Today, the lines between HR and IS are blurrier than ever. "The systems architects talk strategy. The HR people talk Java. And everyone asks excellent questions," says Ward.

Cisco Systems Inc.

Cross-functional Web teams are nothing new at \$6.4 billion network equipment maker Cisco Systems Inc. Cisco's customer support organization has worked closely with the corporate marketing staff since the company's Internet site was launched in 1993.

By 1995, however, it became clear Cisco had to do something to simplify the way customers purchased its equipment. Because Cisco builds its highly complex systems to order,

a whopping one-third of orders it received had to be reworked because of missing or incorrect information.

"The feedback we got from our sales force and customers was that Cisco was difficult to do business with because of how complex the ordering process was," says Todd Elizalde, senior manager of networked commerce within Cisco's Customer Advocacy organization, in San Jose, Calif. This was a distinct disadvantage. Because Cisco's major competitors don't build to order, they were able to fill orders faster and with a lower hassle factor. On a scale of 1 to 5, customer satisfaction scored only 3.9, a figure Toshiba considered unacceptable. "Productivity in our customer purchasing centers was very low. They had to do all these change orders just to get it right," recalls Elizalde. Customers were increasingly frustrated with having to talk to several employees to place one order.

Improving the order management process via the Web was a natural solution. Adding a tool to help customers configure their orders and catch errors on the fly was at the top of the list Elizalde handed off to Chris Sinton, director of Cisco's Web site, Cisco Connection Online (www.cisco.com) and the company's intranet, CiscoEmployee Connection. Online pricing information was another big wish-list item. Keeping that information up-to-date on paper was practically impossible, creating yet another source of customer frustration. Customers also wanted to check order status themselves without making multiple calls.

But adding a transactional commerce application to the Web site involved some risk. For one thing, everyone was initially confused about whether adding online purchasing ability meant Cisco had added a new sales channel. Neither the internal sales reps nor the reseller partners were at all sure they liked that idea

Proceed with Caution

Collaborating with other corporate groups has pitfalls as well as payoffs. Sometimes it just doesn't work out.

WHEN TOSHIBA AMERICA'S NICK ROBERTS first began considering how to revamp the corporate Web site, he was approached by Brad Hargrave, a mail-order salesman, who had some big ideas. Hargrave wanted to give his clients—the large mail-order computer equipment sellers—a link from Toshiba's site to the clients' purchase pages.

"They were asking me for a tag on our Web site that says, 'Here are our direct marketing partners if you would like to shop online,'" says Hargrave.

After several weeks of brainstorming via teleconference and e-mail, it looked like the pair's collaboration was coming to fruition. They planned to relaunch the Toshiba America site in late 1997 with links to all Toshiba reseller partners' shopping sites.

Then executives from other Toshiba sales groups expressed concern that linking to the partners' sites might drive a wedge between them and the sales leads generated by the Toshiba America site. In a few brief hours, three months of work went out the window, leaving Hargrave in the unenviable position of explaining to his customers that Toshiba won't be linking to their sites as they expected.

Hargrave had no comment on the abrupt change of plans. But Roberts believes it was for the best: "There was some disappointment, but partnering with only one reseller is a smart move."

—L. Gibbons Paul

**The three C's —
communication, collaboration
and compromise—are common
to many successful new-breed
Web teams.**

Partnership Profile

Company Cisco Systems Inc.

Partnership Marketing, sales and customer service

Who came to the table

Chris Sinton, director of Cisco Connection, and Todd Elizalde, senior manager of networked commerce for Cisco's Customer Advocacy organization.

Their wish lists Sinton wanted to add online ordering for existing direct customers and sales partners as well as online pricing and order status information. Elizalde wanted to do it all without alienating his sales/customer service counterparts.

How they worked it out

The marketing side requested no compromises from sales, placing highest emphasis on a good working relationship.

Metric of success Cisco receives 40 percent of its annual revenues from orders placed online; daily revenues top \$9 million.

Lessons learned Spend time at the beginning—no matter how long it takes—to clarify everyone's role before the project begins.

because they could face losing commissions for orders placed on the Web.

"They were very threatened by the idea," says Sinton. So he and Elizalde sprang into action, dissecting the sales side's concerns and finding mutually agreeable solutions.

"We had a three-part strategy for getting everyone's buy-in," says Elizalde with a chuckle. "We sat down, asked them what they wanted, and then we did it."

To wit, they made it clear that the new commerce application on Cisco Connection wasn't going to be a new sales channel. Regional salespeople would receive



Backing Each Other: Todd Elizalde and Chris Sinton cooperated so that Cisco Systems could implement online ordering without alienating sales and customer service people.

full commissions for any orders placed online. And, most important, only existing direct customers and sales partners would be able to purchase online. Would-be first-time buyers would be sent to local sales representatives to begin building relationships.

The salespeople came around in a flash, he says, mostly because they saw immediately how the Web would free them from mundane tasks like checking order status and pricing information for customers. Salespeople now use that precious time to focus on customer relationship building, a task that can't be automated.

While the effort required winning over salespeople, Elizalde and Sinton got along from the start. "Honestly, there were very few differences between us when we sat down at the table," says Elizalde.

Because their objectives were the same—to increase both customer satisfaction and customer and Cisco productivity—they needed only to agree on ways to do that. They started out meeting in person twice a week, often for

lunch. As the project gained momentum, they relied instead on ad hoc meetings.

"We are very tightly in synch at this point, and we need less formal coordination," says Elizalde.

Since the addition of the commerce application to Cisco Connection in August 1996, the skyrocketing usage rates and value of goods sold online are testament to its success. Three months after the launch, the run rate of orders received through the commerce application was 4 percent. Today, Cisco Connection Online sells \$9 million worth of equipment online every day, accounting for 40 percent of Cisco's annual revenue.

"Something worked with how we manage the ownership of the customer," Sinton says. He and Elizalde also attribute their success to figuring out strategy and roles up front. "We didn't do this just to sell stuff. We have a clear Internet path," he says. **CIO**

Lauren Gibbons Paul is a freelance writer based in Belmont, Mass. She can be reached at lauren paul@sprintmail.com.



Hill of Beans

Is Java Beans a true innovation or merely old coffee in new Thermoses?

BY MIKE CARIFIO

OVER THE PAST YEAR, JAVA HAS GROWN AT A TREMENDOUS, highly publicized pace for several reasons: It pits the two remaining high-tech superpowers, Sun Microsystems Inc. and Microsoft Corp., against each other; by his own admission, Sun CEO Scott McNealy is a quote machine; and—oh, yes—Java is the most important programming language since C++. Even Microsoft's CEO Bill Gates grudgingly admits the last, albeit with code words like "moderately interesting."

In its relentless pursuit of market share, Sun wants to control not only the language, but also the platform that supports the language. This crusade originally started underneath the language at the virtual machine (specified in software) that executes Java programs themselves. In the last year, however, this hegemony has expanded sideways to all the various class libraries that support the language. Indeed, the NOISE consortium (Netscape Communications Corp., Oracle Corp., IBM Corp., Sun and Everybody else) has specified class libraries at a prodigious pace, covering most of the computer industry and matching up API by API with Microsoft's WIN32 and Microsoft Foundation Class libraries.

At first glance, this specification-fest might seem like a solipsistic exercise, but it offers real benefits and poses a significant (although admittedly distant) threat to Microsoft's perch atop the hill. Sun wants to start the next round of platform races by leveling the playing field to a commonly shared platform. However, Microsoft remains happy with its current standing in today's platform race. Hence Microsoft's alleged break from the purity of the Java specifications and Sun's resulting litigation.

Good Java Comes from Good Beans

A quieter, less dramatic confrontation between Sun and Microsoft is also brewing in the highly technical arena of component object technology. That's a topic only a geek could love, yet it has the potential to radically change how applications are designed, developed, delivered, bought and sold. Turning objects into components is a natural progression into the mainstream of the now decade-long diffusion of object-oriented programming techniques and tools. Whereas objects were a



means to structure applications into highly modular and concrete parts, components do that and more. The objects themselves can be bought and sold as commodities and can be combined from multiple vendors to produce applications relatively easily and quickly.

It will still require hard work and creativity to form the components,

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but the applications themselves can be made from larger building blocks, which can be reused many times. In addition, the potential exists for them to be sourced from multiple vendors.

As you might guess, two standards are emerging, one from Sun and one from Microsoft. And, again predictably, they view component objects in different ways. The Sun view, a Java view, is language-centric, the language, of course, being Java

Component object technology is a topic only a geek could love, yet it has the potential to radically change how applications are designed.

and platform-independent. The Microsoft view is language-neutral and works for C++ and Java equally well, but is Windows-dependent. The Java view is called Java Beans; the Microsoft view is called ActiveX (or sometimes just COM for the component object model).

What you might not guess, however, is that conceptually the two standards are quite similar. Moreover, Microsoft and Sun are building bridges to include each other's technologies, at least on the Wintel platforms.

End users have started to enjoy the benefits of component object technology already, although they may not realize it. Many Windows applications, especially the most popular ones written by Microsoft, already use ActiveX inside. And ActiveX (and hundreds of millions of invested dollars) account for Office 97's unprecedented integration.

Java Beans is a new specification, one that hasn't yet enjoyed wide deployment. But such vendors as Applix are betting that the combination of Java, beans and the Internet will give it a profitable niche in the office automation marketplace, although ostensibly the primary benefit of the Java Bean technology—and all of Java itself for that matter—is platform independence. In fact, the chief benefit will be to make component object technology accessible to the

By Any Other Name

Whatever they're called, new push applications should deliver fewer headaches

PUSH TECHNOLOGY HAS come a long way since PointCast (www.pointcast.com) first popped up on desktops in 1992. Initially, push technology's name pretty much summed up the underlying concept: Information, often in the form of ticker-tape-like scrolls, was delivered or "pushed" via the Internet directly to users' desktops.

From the start, users complained about performance and relevance. Often, desktops would crash as data—much of which wasn't particularly useful—slowly scrolled across the screen.

Today, push technology has advanced but has also hit a point where vendors and industry watchers can't agree on a name that accurately describes its capabilities.

Dan Schimmel, president and CEO of OneSource Information Services Inc. (www.onesource.com) characterizes the latest generation of push technology as "business information suites," which he describes as "the collection and integration of a whole variety of relevant information." Essentially, OneSource's products gather and synthesize financial and company data according to user-defined screens and then deliver the data to users in various formats, such as spreadsheets or tables, via the Web.

Marty Gruhan, vice president of Internet business solutions for analyst Summit Strategies Inc. of Boston, uses the term

"corporate knowledge market" to describe push technology's new frontier. "The focus is on technology that acts as an intermediary between the Web and the corporation," she explains. Vendors hope to deliver value to the desktop by filtering and aggregating data from multiple sources into a convenient, Web-based medium.

As the line between push and new data-delivery technologies increasingly blurs, more vendors are staking claims to niche delivery spaces. InfoMation Publishing Corp. (www.information.com)

targets the corporate knowledge market with its flagship product, Echo. The product searches the Web for predefined information and delivers it to users, either through the Web, via traditional push mechanisms or by e-mail. Dow Jones Interactive Publishing (bis.dowjones.com), aiming to further extend its brand, offers services that deliver customized financial information and news from thousands of publications to users' desktops. And Diffusion Inc. (www.diffusion.com) is going after the extranet audience with its Information Delivery Server, designed to distribute business data to partners, suppliers and customers via any medium, including the Web, pagers, faxes and e-mail.

—Megan Santosus



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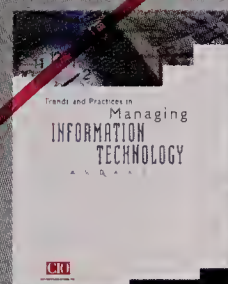
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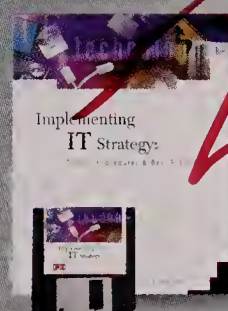
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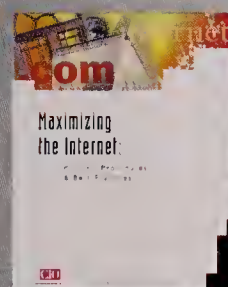
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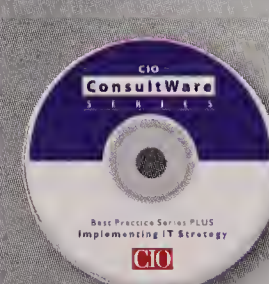


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application development community regardless of which standard ultimately wins. And while COM is a fleshed-out standard, widely deployed on both Windows/NT and Windows 95, it remains formidable to learn. The simplest texts describing ActiveX start at around 500 pages; the Kraig Brockschmidt tome *Inside OLE* — the COM bible — weighs in at more than 1,000 pages. Beyond that, it assumes you're a proficient Windows, C++ and MFC programmer. Here there be dragons.

But make no mistake: Components will win in some form. And you should give this approach a long, hard look. First, once your developers complete the learning curve, components will drive down development costs. It's always cheaper to purchase an application than to develop it. But the creative company can also use component objects to turn a cost cen-

Java Beans has the potential to come with programmer instructions built in. Better yet, a bean may eventually be able to suggest to the application developer how to use the bean itself.

ter, i.e., software development, into a potential profit center, software products. If your firm has managed to automate some important piece of its core competency, you can put that up for sale. Some companies have opted to do just that, believing they make up more in revenue than they lose in temporary competitive advantage.

Over the last several years, Microsoft, to its credit, has refined ActiveX/COM, extended it and tried to make it approachable, first with C++ class abstractions, then C++ templated class abstractions, and now, most recently, with Microsoft specific extensions to the C++ language itself by inventing a new model for C++ classes called the coclass (COM Object class). Coclasses are strangely reminiscent of Java's interface idea, a way to specify a component's promised behavior without necessarily indicating how it's to be done. Moderately interesting, indeed.

Dissecting a Bean

A Java class becomes a bean, or a component, by implementing certain interfaces, not just at runtime (when the application is actually running) but at design time (when the application designer is putting the application together). In other words, beans are well-behaved Java classes in two settings and for two users: the end user and the software developer. More specifically, beans must respond appropriately when spoken to through external events; they must allow other Java classes, especially programming tools, to interrogate them to discover what they can do, and they must be able to copy themselves onto a disk if asked.

The innocuous notion of letting one object interrogate

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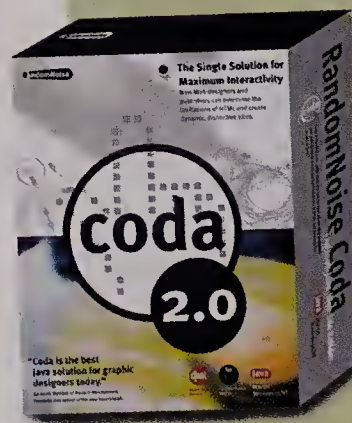
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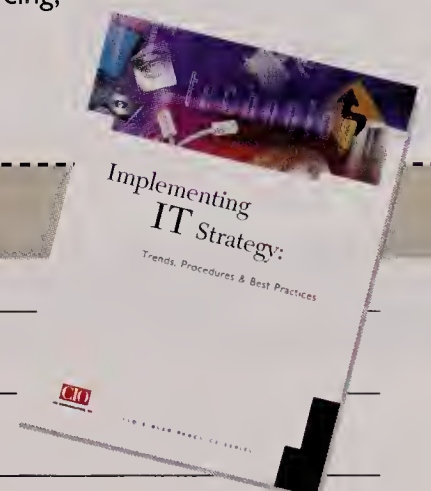
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another—known in computer science as introspection—is actually a highly powerful mechanism that will lead to literally self-describing objects.

Java Beans has the potential to come with programmer instructions built in. Better yet, a bean may eventually be able to suggest to the application developer how to use the bean itself. When combined with the Internet or intranet, programming applications could become a more dynamic activity: The programming tools themselves could search out appropriate beans for the application at hand. Right now, that's still science fiction, but it's much more plausible today than it was last year.

The future, of course, always begins in the present. The bean concept is not original; in fact, Microsoft's venerable Visual Basic has supported its own ren-

ActiveX/COM technology.

Do Beans Provide the Buzz You Crave?

Generally speaking, nothing in Java is an innovation per se. Jim Gosling, one of the language's chief developers, has written that the Java language chose mainstream features and had demonstrated their practicality in other languages. Java, having started as an interpreted language, demonstrates and has taken great pains to retain the flexibility that interpreted languages. Beans carry on that tradition and codify it.

Programming technology and environments have improved substantially, at least visually, in the last few years, especially on Windows and Windows/NT. But the main concepts of programming have changed little since the initial

Make no mistake: Components will win in some form. And you should give this approach a long, hard look. First, once your developers complete the learning curve, components will drive down development costs.

dition component objects, called OCXs, that had many of the characteristics of beans. OCXs have both runtime and design-time property sheets and are connected in an application by an implied event processing model (user interactions are turned into system events and then the events are funneled to the right object instance).

Best of all, you can purchase OCXs from independent software vendors and quickly add new functionality to your Basic application at a fraction of the cost of developing equivalent functionality yourself. Tool vendors are already implementing development environments that recognize and leverage beans: Symantec's Caf E9, Borland International Inc.'s Jbuilder and Sun's Java Workshop lead the way in their latest versions. Microsoft has offered an update to its Visual J++ product that supports the new Java APIs (to a degree) but is spinning the bean concept as a Java face on its language-neutral

days of Unix. Programmers generally spend much of their days in the edit-compile-link-test cycle and most of the thinking happens while staring at a text editor. Moreover, application developers are on their own when they stray beyond the kinds of built-in objects their favorite tool provides. They get the least help and automation precisely when they need it the most.

Beans, or design-time controls and components more generally, can change all that. Objects, with their own assistants to guide the developer, will have a significant effect on the kinds of applications that developers can tackle. Maybe they'll even be able to keep up with the pace of change on the Internet. **CIO**

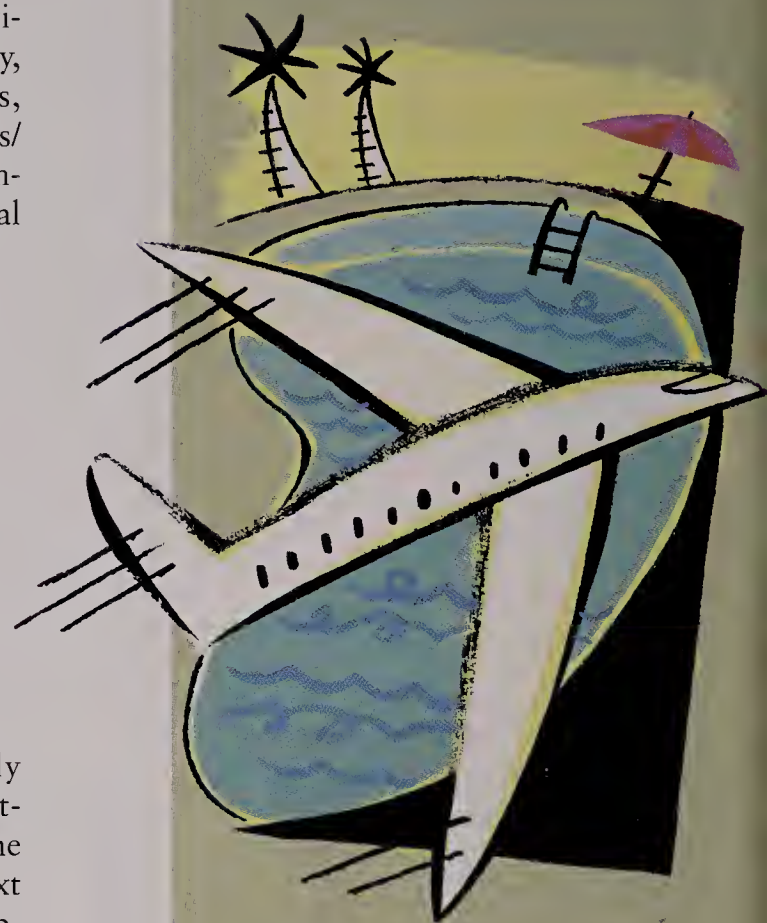
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A P P L I C A T I O N F O R M

CIO MAGAZINE

HONORING BUSINESS ACHIEVEMENT

ENTERPRISE

THROUGH THE INNOVATIVE USE OF

VALUE

INFORMATION TECHNOLOGY

AWARDS

APPLICATION DEADLINE: JUNE 15, 1998



Presented By



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1999

CIO MAGAZINE

HONORING BUSINESS ACHIEVEMENT

ENTERPRISE

THROUGH THE INNOVATIVE USE OF

VALUE

INFORMATION TECHNOLOGY

AWARDSSM

CRITERIA

The CIO Magazine Enterprise Value Awards honor technology-enabled business achievement arising out of effective business/IS collaboration.

Entries will be judged on the following criteria:

- **STRATEGIC IMPACT**
- **CUSTOMER IMPACT**
- **FINANCIAL IMPACT**
- **TECHNICAL EXCELLENCE**

We invite applicants to consider the broadest possible spectrum of enterprise value. The following list of IT-enabled benefits is not inclusive but rather is intended to help guide applicants' thinking:

STRATEGIC IMPACT

- Penetration of new markets
- Transformation of the terms of competition within the market
- Increased market share

CUSTOMER IMPACT

- Customers have more choices of products and services
- Customers receive better products and services at lower cost
- Transaction process is more rewarding/less time-consuming

FINANCIAL IMPACT

- Lower costs due to streamlined operations
- Increased profits
- Increased operational effectiveness

TECHNICAL EXCELLENCE

- Overall technical innovation
- Uniqueness of solution within the organization's industry
- Complexity of the problem or opportunity the system addresses

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SELECTION PROCESS

Finalists are chosen by a screening panel of CIO editors and independent consultants. Each finalist will be subject to an in-depth analysis of the nominated system (to be performed by CIO or its agents). This analysis, which may require a site visit, will be based on interviews with sponsoring executives and system users and will be designed to substantiate all claimed benefits. Winners are selected by an independent panel of judges—prominent IT executives from a variety of industries.

IMPORTANT DATES

Deadline: Applications must be received by **June 15, 1998**. Notification of winners will occur in October 1998.

ENTRY GUIDELINES

1. The system must have been fully operational prior to July 1, 1996.
2. Entrants must agree to be featured, along with their systems and organizations, in a CIO article.
3. Entries must be complete.
4. Entries must be on 8.5-by-11-inch paper, one side per sheet.
5. The application form may be reproduced.
6. Up to three entries from one company will be considered, but each entry must be submitted separately. Only one entry per company can win.
7. Entries must be made jointly by the IS executive sponsor AND by the business sponsor for whom the system delivers value.
8. IT vendors, public relations and advertising companies, consultants and other third parties may NOT apply on behalf of another company. They are encouraged to forward this form to the "owner" of the system or to contact CIO Communications to recommend that an application form be sent to the client.
9. All entries must be computer generated or typed; no handwritten entries will be accepted.
10. When feasible, an additional copy of the entry should be sent on a 3.5-inch disk. Electronic entries must be limited to word-processing and spreadsheet packages that are compatible with Microsoft Word and Microsoft Excel.

For more information, visit our Web site at www.cio.com/eva
or contact Lisa Kerber at 508 935-4449 or via e-mail at kerber@cio.com.

1 COMPANY/BUSINESS UNIT

Name of parent company

City, state where headquarters are located

Publicly or privately held?

Annual revenues

Industry

Name of business unit or organization

City, state where located

Number of employees at business unit

URL

2 ENTRANTS

A. Name of entering IS executive/system sponsor

Title

Name of division, department or unit

Address

City

State Zip

() ()

Telephone Fax

E-mail

B. Name of entering business-unit executive/sponsor

Title

Name of division, department or unit

Address

City

State Zip

() ()

Telephone Fax

E-mail

3 SUPPORTERS

Please list four people who are willing to be interviewed with regard to the system, its development, its use and the value returned. At least one should be a member of the technology team that developed the system and should have played a significant role. At least one should be a primary user from the sponsoring business unit. The other two may be from either organization or may represent suppliers, customers or others intimately familiar with the system.

A. Name

Title

() ()

Telephone Fax

E-mail

Reason for inclusion

B. Name

Title

() ()

Telephone Fax

E-mail

Reason for inclusion

C. Name

Title

() ()

Telephone Fax

E-mail

Reason for inclusion

D. Name

Title

() ()

Telephone Fax

E-mail

Reason for inclusion

DEADLINE: JUNE 15, 1998

Mail to: CIO Enterprise Value Awards • CIO Communications, Inc.
492 Old Connecticut Path • P.O. Box 9208 • Framingham, MA 01701-9208
Visit our Web site at www.cio.com/eva

For more-detailed information on the type of data the judges would like to see, including a model application, please visit our Web site at www.cio.com/eva.

4 THE NOMINATED ORGANIZATION

Please tell us about your organization (company, business unit, agency) in 500 words or less. Include information on

- When the organization was founded
- Mission statement
- Major products and services
- Markets served
- Your organization's standing within its industry
- Any other data you believe to be relevant in terms of general background

5 THE NOMINATED SYSTEM

Tell us about the nominated system and demonstrate its importance to the organization by completing the following sections. Please limit your material to one or two pages.

System Description: In one sentence or less, describe the system or IT initiative you are nominating (e.g., order-entry or sales-automation system; global intranet).

Date Deployed: Please indicate when the system was fully rolled out. If all users were not online by **July 1, 1996**, please detail what went live when.

Technical Profile: Briefly describe the technology of the nominated system, including its architecture; hardware, software and development tools used; and networking/communications hardware, software and services. Please include the names of all major vendors and products.

6 EVALUATION CRITERIA

Describe the primary business objectives of and value delivered by the IT investment. Please limit this section to five pages.

Statement of Value: List the three most important contributions the system has made to the business (these can demonstrate strategic, customer or financial impact as described in the "Defining Value" section on the first page of the application form). Please limit this answer to a few hundred words.

Strategic Impact: Define the ways in which the system has had strategic impact and describe in detail how the system delivers that impact. Make sure to include supporting data. For some examples of this, please refer to our Web site at www.cio.com/eva.

Customer Impact: Describe in detail how the system has benefited your customers. You may include examples from the organization's ultimate customers (consumers), the business users of the system, and suppliers or business partners affected by the system.

Financial Impact: Provide a detailed, one-page summary of the nominated system's investment costs (including all upfront development expenses and annual maintenance charges). Also provide details of the financial returns (including increased profits, reduced costs and indirect cost-avoidance). Please be specific about where the money is going/coming from and distinguish between actual and projected costs/returns. This data is required to make it past the first round of judging. If your company is selected as a finalist, you will be required at that time to fill out a standardized table detailing specific costs and returns.

Technical Excellence: Describe the degree of overall technical innovation of the solution (does it employ cutting-edge technology?); its uniqueness within your industry (is this an industry first or second, or is this a common solution?); and the complexity of the problem or opportunity it addresses. Please be as specific as possible and include supporting data.

7 OTHER CONSIDERATIONS

Scope and Impact: Identify the functions (e.g., customer service, manufacturing, sales) that were changed by the system, the nature of those changes and their impact on the business.

The Importance of IT: Explain the importance of the IT component to the overall business change. Could the results have been achieved without IT?

Collaboration: Describe how the business unit and IS organization worked together throughout the project, from concept to implementation. Who initiated the effort? What were the specific tasks fulfilled by the business unit? By the IS organization?

8 TRUTH OF INFORMATION RELEASE

The following release must be signed by both nominating executives if the application is to be considered. Unsigned releases will invalidate the entry.

I hereby state that the information provided is true and complete to the best of my knowledge and belief.

I authorize the release and use of, in connection with the CIO Enterprise Value Awards program, any and all materials furnished by me or others at the company contacted for this judging. I understand that information submitted on this application or subsequently gathered during the evaluation and judging process may be used in articles or any other type of publicity relating to the CIO Enterprise Value Awards program.

I also authorize the release and use of my name, my company's name and my likeness, including but not limited to any photographs and any recording of my voice or image that may be taken of me for CIO magazine. I agree that no compensation shall be due me or my company for such usage.

I recognize that failure to meet these conditions or to provide sufficient material that can be published can cause the application to be rejected at any point in the process at the sole discretion of the sponsors.

1. Signature of nominating IS executive

Date

2. Signature of nominating business executive

Date

9 OTHER EDITORIAL OPPORTUNITIES

If you are not selected as an award recipient, are you willing to be contacted for inclusion in other articles in CIO magazine?

Yes ☐ No ☐

How did you learn about the CIO Enterprise Value Awards program?

- | | |
|--|---|
| ☐ CIO magazine | ☐ Academician |
| ☐ cio.com Web site | ☐ Advertising agency |
| ☐ Consultant | ☐ IS staff member |
| ☐ Systems integrator | ☐ Other publications |
| ☐ PR agency | ☐ Vendor |
| ☐ Other (please identify) _____ | |

CHECKLIST

Have you filled out...?

- ☐ Company/Business-Unit, Entrants and Supporters Information

Have you included on separate pages...?

- ☐ Nominated Organization
☐ Nominated System
☐ Evaluation Criteria
☐ Other Considerations

Have both entrants signed and dated...?

- ☐ Truth of Information/Release

Have you checked off...?

- ☐ Other Editorial Opportunities
☐ How you learned about the CIO Enterprise Value Awards program

Ingredients For Winning:

STRATEGIC IMPACT TECHNICAL EXCELLENCE COLLABORATIVE EFFORT

H O N O R .

R E C O G N I T I O N .

P R E S T I G E .

The value of IT. It's real. You know it and you've proved it. Your organization is realizing business value and hard-dollar benefits from information technology investments. And although the payback is its own reward, the CIO Enterprise Value Award will bring you, your company and your IT organization the industry recognition you all deserve!

**D O Y O U Q U A L I F Y F O R A N
E N T E R P R I S E V A L U E
A W A R D ?**

Four criteria are essential...

- 1. Strategic Impact**
- 2. Customer Impact**
- 3. Financial Impact**
- 4. Technical Excellence**

If your innovative solution meets the above criteria, please complete this Enterprise Value Awards application form and return it to us no later than June 15, 1998. *CIO* magazine will feature profiles of the winning organizations and the executives who have proved the positive and sustained impact of technology on enterprise value.

In February 1999, CIO and AT&T Solutions will host a special awards ceremony honoring the CIO Enterprise Value Award winners at the annual CIO Enterprise Value Retreat.

For more information, visit our Web site at www.cio.com/eva or contact Lisa Kerber at 508 935-4449 or via e-mail at kerber@cio.com.

CIO Enterprise Value Awards

T I M E L I N E

Applications Due:
June 15, 1998

Winners Announced:
October 1998

Awards Ceremony:
Jan. 31-Feb. 3, 1999
*at the CIO Enterprise Value Retreat,
Westin La Paloma, Tucson, Arizona*

PREVIOUS WINNERS

1998

Black & Veatch
New York City Department of Finance
Procter & Gamble
State Street Global Advisors
Tech Data Corp.
U.S. Environmental Protection Agency

1997

Bell Atlantic Corp.
The Chase Manhattan Corp.
Fidelity Investments
MacGregor Medical Association
Schlumberger Ltd.

1996

Brigham & Women's Hospital
Gensym Corp.
McDonnell Douglas Helicopter Systems
Rockwell Space Systems Division (SSD)
Telogy Inc.
United HealthCare Corp.

1995

APCOA Inc.
Commonwealth of Massachusetts
PCs Compleat Inc.
Hyatt Hotels & Resorts
Caterpillar Inc.
Kmart Corp.

1994

SynOptics Communications Inc. (now Bay Networks Inc.)
Complete Health Services Inc.
Los Angeles County Department of Public Social Services
AT&T Universal Card Services Corp.
Chicago Bureau of Parking
South Florida Water Management District

1993

The Perrier Group of America Inc.
New York City Transit Authority
Medical Center of Delaware
Texas Instruments
Lone Star Gas Co.
Travelers Managed Care and Employee Benefits Operations

CIO ENTERPRISE VALUE AWARDS

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"We feel that we are doing some really creative things with IT here, but it's hard to judge your own shop. We needed an outside benchmark to see if other people thought our IT was as strong as we think it is. Winning the award was reaffirmation from an outsider, which was good for internal morale. It was an objective benchmark of recognition that also reinforced our image in the marketplace."

—Denis O'Leary
Executive Vice President,
The Chase Manhattan Corp.,
shown (left) with business sponsor
Frank Lourenso (right) and
Chase's system development team
1997 EVA Winners

C A L L F O R E N T R I E S



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If you can demonstrate the strategic value of a system you implemented and its contribution to bottom-line profits, we want to hear about it. Complete the application form in this issue of *CIO*. If the form has been removed, please call Lisa Kerber at 508 935-4449 or access our Web site at www.cio.com/eva.

Get the recognition you deserve. The CIO Magazine Enterprise Value Award is the most prestigious award for innovative IT solutions. And it could be yours.

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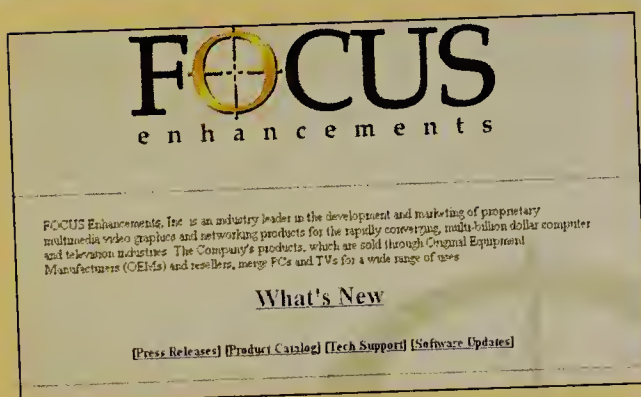


AT&T Solutions

Ready for Prime Time

IMAGINE A CORPORATE WEB SITE that doesn't put corporate products in the best light. That was the situation at Focus Enhancements Inc. (www.focusinfo.com), a Sudbury, Mass., manufacturer of PC-to-TV video conversion products. "We did an in-house design of our Web site that was rudimentary," says Carlton Van Putten, the company's vice president of marketing. With small, flat images and lots of text, the company's own pages didn't look great when displayed on TV monitors. In December 1996, Focus re-launched its Web site, designed by NetImpressions Inc. (www.netimpressions.com/home/home.htm) of Maynard, Mass. Chief improvements to the site include large, colorful logos and navigation links, product images and comprehensive customer support information. "Many of the changes may be subtle, but they are effective," Van Putten says. "We can now show off our own conversion technology with our Web site." **CIO**

Features Editor Megan Santosus can be reached at santosus@cio.com.



ORIGINAL HOME PAGE

Flat logo and lines of text don't effectively convey message; "What's New" link says nothing about available information.



NEW HOME PAGE

Bright, colorful logo summarizes marketing emphasis. Products are spotlighted and pictured prominently. Navigation links are large for easier viewing on TV monitor.



NEW PRODUCT CATEGORY

Navigation bar is displayed at top of screen. Large product category headings are easier to read. Photos draw attention to products.



NEW PRODUCT CATEGORY

Product spotlight includes a summary of features. Links to resellers show where to purchase products online.

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